

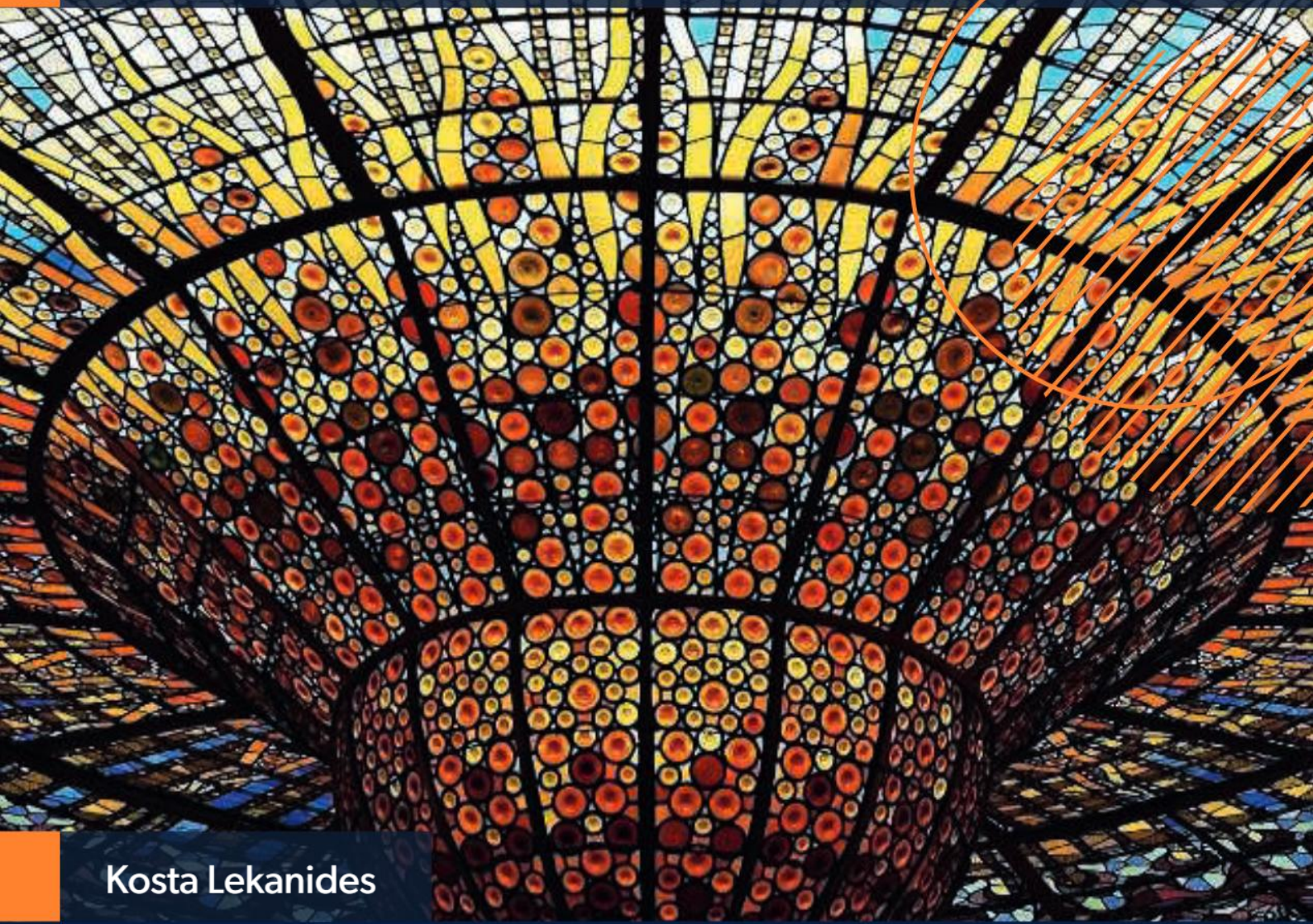
Oxford Resources for IB  
Diploma Programme



2025 EDITION

# EXTENDED ESSAY

COURSE COMPANION



Kosta Lekanides

OXFORD







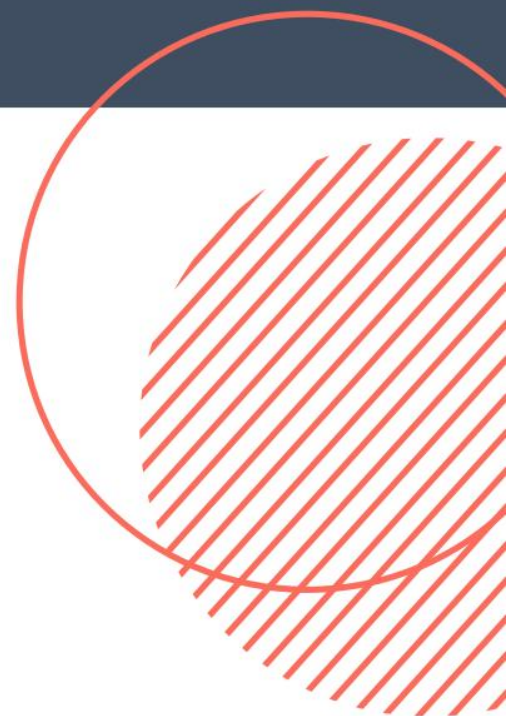
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**Kosta Lekanides**

**OXFORD**  
UNIVERSITY PRESS



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# How to use this book

To help you get the most out of this book, here is an overview of its features:

## Key term

A **primary source** is any original, first-hand piece of data you or another researcher has collected, e.g., field notes, experimental data, surveys.

Key terms boxes introduce the definitions of important terminology and concepts related to researching and writing your extended essay.

## Note

If you are studying a language as part of your language A Diploma Programme requirement then you cannot write a language B extended essay in this language (e.g., a student studying English A cannot write an extended essay in English B).

Note boxes contain reminders of important things to bear in mind or consider when planning and writing your extended essay.

## Tip

Always consider the value and limitations of your chosen research method. Comment on this in the body of your essay rather than as a separate section or chapter.

Tip boxes provide practical tips for navigating the planning and writing process of your extended essay, as well as ways of making sure your essay is the best it can be.

Chapter 3 provides more support on locating suitable source material for an extended essay, along with a list of subjects and the degree to which each requires either primary or secondary (or both) source material (see Chapter 3, pages 49–51).

Connections boxes link content with other parts of the book.



These are practical activities and tools for consolidating your understanding of key concepts (e.g., what constitutes plagiarism and what doesn't) and for planning the key parts of your extended essay (e.g., designing your research question).

## Supervisor guidance

The following is a series of support emails that an EE coordinator could send out to supervisors at key junctures in the supervisory process.

Supervisor guidance boxes give handy tips and guidance for extended essay supervisors, as well as IB DP and EE coordinators on a variety of topics, ranging from the supervisory process to the viva voce.





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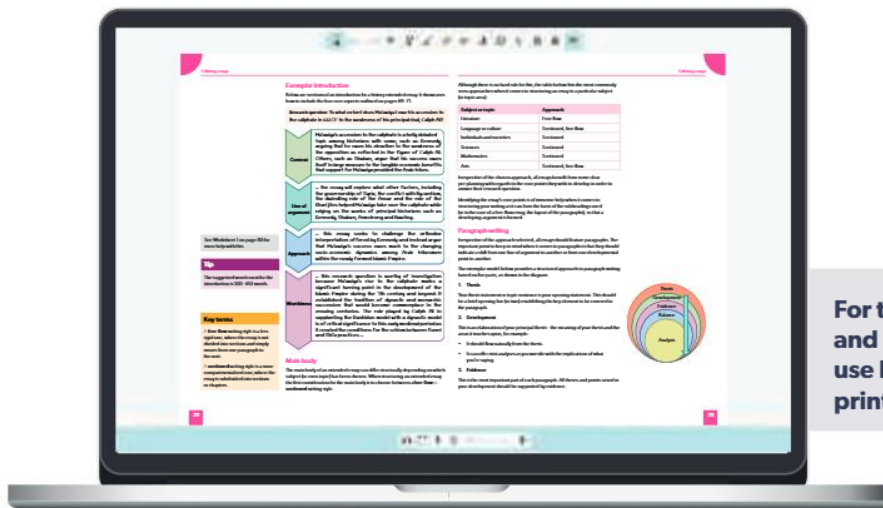
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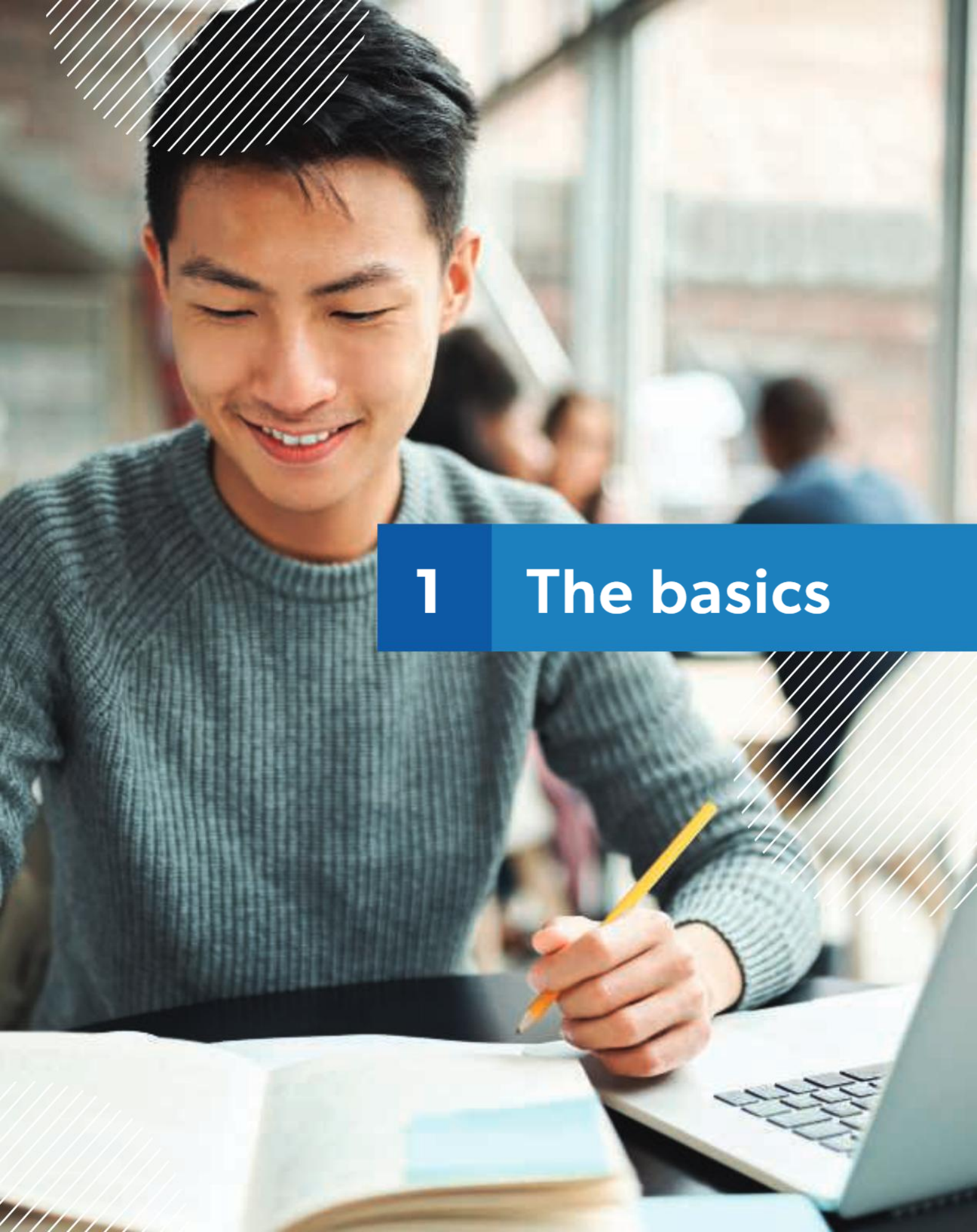


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# 1 The basics



## Skills and attributes

An extended essay (EE) is intended to be a student-led, academic-style research paper on a topic of personal interest in one of the available International Baccalaureate (IB) subjects. The process of researching and writing an extended essay is immensely helpful in terms of preparing you for the academic, research-driven environments of universities and colleges. As such, it is intended to adhere to certain formal guidelines and processes, which this course companion will support.

At its core, the extended essay is aimed at cultivating or developing a range of skills and attributes, which can be mapped as shown:



One could argue that the extended essay also teaches you to act in an ethical manner while adhering to rules governing academic integrity—both in terms of your approach to research and in the final production of the essay itself.

## Components

### Extended essay basic structure

#### 1. What does the extended essay comprise?

- An academic piece of writing on a topic of your choosing.
- A bibliography of **only** the works cited in the essay itself, using an acknowledged referencing style—for example, the American Psychological Association (APA) style or Modern Languages Association (MLA) style. For more on the bibliography, see Chapter 7, page 116.
- Appendices (where applicable). **Note:** It is not mandatory for an examiner to read anything in an appendix; as such, this should only include information that acts as ancillary support to the essay (such as exemplar questionnaires or excerpts of original language sources you've translated). The appendix should **not** include information that is integral to the flow or argument of the essay itself.
- A 500-word reflection and progress form (RPF). For more on this, see Chapter 7, page 145.

<p>→</p> <p>2. What is the maximum word count?</p>	<p>The maximum length of the essay is 4,000 words (plus an additional 500 words for the reflection and progress form that you will submit as a separate document along with the extended essay).</p> <p><b>Note:</b> The essay should <b>not</b> be any longer than 4,000 words. Any writing over this limit <b>will not be read</b> by the examiner. There is no percentage leeway above the word count (e.g., you cannot write 5% more than the permitted 4,000 words). Writing over the limit could therefore have a negative impact on each of the assessment criteria as the examiner will simply stop reading.</p>
<p>3. In which languages can the essay be written?</p>	<p>For extended essays in the studies in language and literature subject group and the language acquisition subject group, you can write in any of the available languages listed on the International Baccalaureate Organization (IBO) website.</p> <p>For extended essays in the individuals and societies, sciences, mathematics and the arts subject groups, the available languages are English, French and Spanish. Other languages (such as German or Japanese) may also be available but you should check with your IB Diploma Programme (DP) coordinator, as this may change with successive updates to the assessment procedures.</p>
<p>4. On which subjects can the essay be written?</p>	<p>An extended essay can be written within any of the IB-approved subjects with the exception of those that fall under the school-based syllabus category (such as astronomy, marine science, Turkey in the 20th century) and theory of knowledge.</p> <p>Having said this, areas of study from the school-based syllabus can be featured as topics of investigation under the main IB subject listings (e.g., marine science topics could feature as part of an extended essay in biology or Turkey in the 20th century topics could feature as part of an extended essay in history).</p> <p>For a full list of subjects, see pages 6–17.</p>
<p>5. How many hours should you spend on the essay?</p>	<p>The IB recommends that you spend approximately 40 hours, spread out over the course of your IB Diploma Programme.</p>
<p>6. What policies and guidelines are there?</p>	<ul style="list-style-type: none"> <li>• IB <i>Academic integrity policy</i></li> <li>• IB <i>Ethical guidelines for extended essays research and fieldwork</i></li> <li>• IB <i>Sciences experimentation guidelines</i></li> <li>• IB <i>Access and inclusion policy</i></li> </ul> <p>It is a mandatory requirement that all essays are academically honest (see Chapter 8) and adhere to all ethical guidelines (see Chapter 2, pages 30–31).</p>
<p>7. How is the essay supervised?</p>	<p>The IB recommends that students receive anything from three to five hours of in-school supervisory support towards the completion of their extended essay.</p> <p>A supervisor is expected to provide advice and support but not prescribe questions or edit any work produced.</p> <p>Your supervisor will also be expected to validate the authenticity of the work submitted by you to the IB by initialling and dating the reflection and progress form.</p> <p>External supervision (that is, by a person not employed by the school) is possible in certain scenarios, although only an in-school supervisor can sign the forms and authenticate your work.</p> <p>For more information, see Chapter 6.</p> <p>→</p>



<p>→</p> <p><b>8. How is the essay submitted?</b></p>	<p>The extended essay will be digitally uploaded to the eCoursework portal by you or your school. The school's IB DP coordinator will help facilitate this upload.</p> <p>A clean copy of the extended essay (i.e., with no annotations or comments by you or your supervisor) should be saved using any of the following file types:</p> <ul style="list-style-type: none"> <li>• Microsoft Word™ file (.doc or .docx)</li> <li>• Portable Document Format—PDF (.pdf)</li> <li>• Rich Text Format (.rtf)</li> </ul> <p>The file should not exceed 10MB.</p>																																	
<p><b>9. How is the essay assessed?</b></p>	<p>The extended essay is assessed against these five criteria:</p> <p><b>A:</b> Framework for the essay (6 marks)</p> <p><b>B:</b> Knowledge and understanding (6 marks)</p> <p><b>C:</b> Analysis and line of argument (6 marks)</p> <p><b>D:</b> Discussion and evaluation (8 marks)</p> <p><b>E:</b> Reflection (4 marks)</p> <p><b>Total marks awarded: 30</b></p> <p>For more on each criterion and how best to tackle them, see Chapter 7.</p>																																	
<p><b>10. How many IB points is the essay worth?</b></p>	<p>There are 3 points available from the combination of the extended essay and the theory of knowledge (TOK) course.</p> <p>The 3 core points are allocated as follows:</p> <table border="1" data-bbox="379 1044 1005 1350"> <thead> <tr> <th>TOK/EE</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td rowspan="4">Failing condition</td> </tr> <tr> <td>B</td> <td>3</td> <td>2</td> <td>2</td> <td>1</td> </tr> <tr> <td>C</td> <td>2</td> <td>2</td> <td>1</td> <td>0</td> </tr> <tr> <td>D</td> <td>2</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>E</td> <td colspan="5">Failing condition</td> </tr> </tbody> </table> <p>For example, in order to gain 3 core points you must achieve a grade combination of either A/A, A/B or B/A in your extended essay and theory of knowledge course.</p>	TOK/EE	A	B	C	D	E	A	3	3	2	2	Failing condition	B	3	2	2	1	C	2	2	1	0	D	2	1	0	0	E	Failing condition				
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B	3	2	2	1																														
C	2	2	1	0																														
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<p><b>Do not include</b></p>	<ul style="list-style-type: none"> <li>• Candidate details, session number, school and supervisor's name or any identifying features other than your personal code on the title page. The digital upload will automatically take care of these other details.</li> <li>• Audiovisual material (such as video recordings and sound clips) cannot be uploaded as separate files. Images and screenshots within the essay are fine, as are any relevant links in the bibliography or appendices.</li> </ul>																																	

## Subjects and potential approaches

Your extended essay must be written within one of the available IB subjects listed on the following pages. This list is updated annually by the IB, so check with your school's IB/EE coordinator. In addition, all extended essays should adhere to certain mandated guidelines, the details of which are also summarized here.

**Tip**

It is highly recommended that you write your extended essay in a subject that you are already studying as part of your IB Diploma Programme. This will ensure you:

- are able to employ the relevant methodologies associated with research in your chosen subject
- maintain an approach to research that adheres to the one outlined by the IB for that subject area
- have access to content that could support your investigation.

Picking one of your higher level subjects might further help you, but this is not essential or mandatory.

**Language A**

Language A extended essays can be focused on:

- **Studies of a single literary text** (e.g., novels, plays, poems) **or language text** (e.g., advertisements, brochures, web pages, social media posts) written in the target language of the extended essay. In the case of a language text, this could mean a number of language texts to ensure there is enough scope for a 4,000-word extended essay (e.g., a group of social media posts from a set period of time or a selection of advertisements from a specific product campaign).
- **A comparative study of more than one literary or language text** where at least one text is originally written in the target language of the extended essay (the other can be a translated text).
- **A comparative study of one literary and one language text** where at least one text is originally written in the target language of the extended essay (the other can be a translated text).

**Language B**

Language B extended essays can focus on one of the following three areas:

- literature (literary analysis)
- language (use and development)
- culture (or civilization in the case of classical Greek and Latin).

You may choose to write the essay either in one, a combination of two, or in all three of the areas listed above. Be mindful, however, that focusing on all areas may make it more difficult to develop any one in sufficient detail within the 4,000-word limit.

Having said this, you can dip in and out of these broad areas as your research question demands. For example, a question about the extent to which the 2021 Peloponnese advertising campaign challenged or reinforced stereotypical representations of Greece (the culture strand) could also involve both literary analyses (e.g., narrative, themes) and language analyses (e.g., word choice, visuals) of the advertisements.

Translated texts are not permitted as part of a language B extended essay. All texts—both the main focus and any comparative texts—must have originally been written or spoken in the chosen language of the essay.

There is no requirement that the chosen text(s) be situated geographically in the country or region in which the chosen language is spoken (e.g., you may choose a book written in English and set in Nigeria or in a totally fantastical setting, such as in *The Lord of the Rings*).

**Language B essays on culture**

Essays on the topic of “culture” should centre on a sociocultural issue that is unique or specific to the target language. These sociocultural issues can be explored through either:

- their influence on the usage and/or form of the language itself (e.g., the role English plays in the erosion of the Inuktitut language among the Indigenous Inuit people in the Canadian territory of Nunavut); or

**Note**

If you are studying a language as part of your language A Diploma Programme requirement then you cannot write a language B extended essay in this language (e.g., a student studying English A cannot write an extended essay in English B).

- how they manifest in customs or in one or more “cultural artefact(s)” specific to the target language (e.g., notions of femininity in Italian society as seen through the lens of Italian films such as *Malèna* by Giuseppe Tornatore).

### Artefacts in language B

When writing an extended essay in language B you have the option to write under the thematic heading of “culture”. Under this heading you can base your work either on traditions and customs specific to the target language or on “**cultural artefacts**”—a term that often leads to confusion.

The following table provides a list of acceptable cultural artefacts, though care must be taken to ensure that you adequately situate the artefact within the cultural issue being explored.

### Key term

A **cultural artefact** is a concrete or physical object that exemplifies, reflects or communicates aspects of a target language’s culture.

Cultural artefacts	Not cultural artefacts
<ul style="list-style-type: none"> <li>• Written documents (such as newspapers, magazines, articles, headlines, books)</li> <li>• Electronic documents (such as blogs, posts, stories)</li> <li>• Visual documents (such as cartoons, comics, advertisements, leaflets, brochures)</li> <li>• Laws or policies</li> <li>• Historical documents or records (such as the English Magna Carta or US presidential memos)</li> <li>• Screenplays, radio or television scripts</li> <li>• Song lyrics, chants, anthems</li> <li>• Interviews</li> <li>• TV or radio shows, episodes, series, documentaries</li> <li>• Works of art</li> <li>• Architecture (such as buildings, monuments)</li> <li>• Films</li> <li>• Stamps</li> <li>• Fashion items and accessories, as a manifestation of culture (such as the kimono, kaftan, Isiagu, sari, thawb, hijab)</li> <li>• Food items and dishes, as a manifestation of culture (such as goulash, kimchee, biryani, pizza, hamburger, burrito)</li> <li>• Brands, as a manifestation of culture (such as Coca-Cola™, IKEA™, Levi’s™, Chanel™, VEGEMITE™)</li> </ul>	<ul style="list-style-type: none"> <li>• Political events (such as elections, referendums)</li> <li>• Historical events</li> <li>• Social movements (such as riots or protests)</li> <li>• Towns or regions (“travel guide” extended essays)</li> <li>• (Minority) ethnic groups</li> <li>• Media trends</li> <li>• Styles of music</li> <li>• Sports</li> <li>• Traditions</li> <li>• Institutions (such as school systems, political parties)</li> <li>• Social issues (such as unemployment, immigration, racism, the role of women in a country)*</li> </ul> <p>* Although social issues can be explored as part of a language B extended essay, the social issue itself cannot be the artefact. Instead, a law or advertisement or film could act as the artefact from which to launch into an investigation of the wider sociocultural issue (e.g., how an artwork highlights issues of gender discrimination in a particular country).</p>

### Classical languages

For classical Greek or Latin, extended essays should be written in either English or Spanish, but double-check with your IB DP coordinator about language availability.

It is important to **not** compare classical topics with modern-day representations (e.g., depictions of Achilles in Homer’s *The Iliad* with contemporary treatments in literature or film).



## Individuals and societies

### Business management

An extended essay in business management can focus on a topic that you have studied as part of your Diploma Programme course, such as business theories, practices, operations, structures, marketing, logistics, models, responsibilities.

To write a strong business management essay, it is recommended that you consider any of the above examples within a specific business, industry or market, while also being mindful of either its local, national, regional or global context (e.g., the success of PepsiCo™'s marketing campaigns in Vietnam's Mekong Delta region or the extent to which the Ansoff matrix could be employed to improve growth in California's solar panel market).

It is also useful to consider the practical (real-world) applications of any abstract business theories or models within the chosen business you've selected for your investigation.

### Digital society

An extended essay in digital society should primarily be focused on exploring the impact and implications of any chosen digital systems and/or technologies on the people who use them and the communities in which they operate.

There is plenty of scope to focus an investigation on any topics covered in the Diploma Programme course but also to bring in elements that extend beyond it. The key to a successful digital society extended essay is ensuring a clear connection between the digital system and its real-world impact on people or communities (e.g., the extent to which VoIP (voice call) social platforms such as Discord™ enable the proliferation of hate speech among the gaming community).

### Economics

An extended essay in economics should use the principles of either micro or macroeconomics as a lens through which to explore a particular topic, policy or event.

To write a strong essay in macroeconomics, it is important to note that you should narrow the focus of your research question to a specific segment of the economy rather than looking at the economy as a whole. The same applies to economic development, where the focus should be on a specific area of development rather than development as a whole. An example of this would be exploring the extent to which the US Federal Reserve's policy of quantitative easing between 2020 and 2021 helped stimulate the real estate market during the post-pandemic years, rather than how the Federal Reserve's policy stimulated the economy as a whole.

### Environmental systems and societies

See Cross-disciplinary subjects on page 16.

### Geography

An extended essay in geography allows for an exploration of any topic covered as part of the Diploma Programme course, albeit with a focus on either a local, regional or national context. A global issue (such as environmental sustainability) is also possible, but it should be situated within a specific and narrower context.

An example of this is the extent to which the United Arab Emirates meets Sustainable Development Goal 7, relating to affordable and clean energy.

For geography extended essays, it is important to explore the relationship between various social statuses and the environment(s) and/or ecosystem(s) in which they operate (e.g., how certain environmental factors affect the migration patterns of a certain group). In essence, geography essays look to analyse the reciprocal relationships and interactions between humans and the ecosystems of which they are a part.

### Global politics

An extended essay in global politics should focus on a contemporary global political issue. This could be, for example, immigration, human rights, conflict (and its mitigation), development, power, international relations and the ways in which people and the societies and communities they belong to engage with and think about these issues.

A local manifestation of a global issue is often a good springboard or case study in which to ground a global politics essay, but remember the global dimension and perspective must always be present as well. This can often be achieved through the use of an appropriate theoretical foundation together with secondary historical and/or contextual data to act as the global lens through which to explore the issue.

### History

An extended essay in history allows for an investigation into the causes and consequences of past events alongside their significance in shaping the development of human societies and structures. Examples of these are the rise and fall of empires, the collapse of a nation and the causes of economic sovereignty.

It is vital in all history extended essays that you consider multiple perspectives. This can be achieved through the exploration of multiple contributing factors that affected an event (such as military, economic, social, political) and/or the variety of historiographical viewpoints relating to your chosen event (e.g., historian A said this was a key factor, whereas historian B argues it wasn't as significant).

History essays are generally stronger when there is scope for a developed argument. Questions of the 'how' or 'what' variety are often weaker as they lead to largely descriptive or narrative essays (that is, they are just storytelling). Questions that explore the extent to which something is the case or the extent to which something was significant or successful tend to do better as they compel an analysis of multiple factors or perspectives.

### Philosophy

An extended essay in philosophy is one which tasks you to explore any manner of questions about the human experience (e.g., what it means to be human, considerations of what is art, how we know things, how we understand good and bad). This should be done through systematic critical inquiry and the consideration of balanced or alternate views and perspectives.

Topics can come from the Diploma Programme course itself but can also touch on areas from current events or academic debate.

An extended essay in philosophy strongly invites you to take a personal and independent position on the issue(s) you choose to discuss rather than simply be

### Note

Although there are no time constraints on what political event or issue you choose to discuss, some care should be taken with content from the distant historic past to ensure you are not writing a history essay, but instead one focused on political analysis.

an imitation of others' thoughts and ideas. In this sense, the writing of a philosophy essay should demonstrate that you are engaging with "doing" philosophy yourself rather than simply retelling what has already been said on the topic.

### Note

Be aware of any ethical considerations. Certain topics within the field of psychology can be sensitive in nature and so you must ensure that you do not breach any of the guidelines published by the IB. For guidance on this, refer to the IB's *Ethical guidelines for extended essays research and fieldwork*.

### Note

With regards to both the primary and secondary source material used, it should always be analysed through the lens of its sociocultural, political and historical context(s) while also noting any ethical considerations in terms of how the data was gathered and produced.

## Psychology

An extended essay in psychology invites you to investigate all manner of questions that relate to human and non-human behaviour through scientific methodologies. Some examples of these are cognitive development and processing, the relationship between sociocultural factors and behaviours, the utility of various research methodologies in understanding behaviour, and neurotransmitters and hormones and their effect on behaviour.

All psychology extended essays must be based on secondary sources only and, more specifically, peer-reviewed research. Primary source materials, such as questionnaires, surveys, experiments or similar are **not** permitted as part of a psychology extended essay.

## Social and cultural anthropology

An extended essay in social and cultural anthropology allows you to explore questions related to the complexity and diversity of human societies. Some examples of such questions are: What makes societies function in the way they do? What structures underpin them? What belief systems do they have to make sense of their world? How do they interact with and respond to the challenges that their context(s) presents them with?

A social and cultural anthropology extended essay will primarily rely on secondary sources (such as ethnographic studies and research or sociocultural literature) that make use of primary source materials such as fieldwork investigations, questionnaires, surveys or similar in a supporting or supplementary capacity. Though you are permitted to conduct your own primary research, this must not become the focus of the essay or the main supportive evidence. Instead, any student-generated primary data should act as a supplement to your analysis of the secondary source material.

You are strongly encouraged to provide your own original analysis of identified patterns and causes within the specific society or community you are investigating, instead of simply describing pre-existing findings in the secondary literature.

## World religions

An extended essay in world religions allows you to explore the belief systems, values, practices, traditions and/or influences of any of the world's religions, both past and present. It must demonstrate a genuine understanding of the key tenets of the chosen religion(s) from the perspective of its adherents.

As such, it must remain objective in terms of its analysis and refrain from making value judgements about a religion's claims to truth or, conversely, from acting as a platform from which to confess, evangelize or provide a defence of the chosen religion.

A degree of specificity within the religion you are discussing is strongly required. Religions should not be treated as single systems of belief but as complex bodies with multiple expressions. For example, instead of exploring Christianity as a whole, you might narrow the focus to a specific manifestation of Christianity, such as a Protestant denomination.



Strong extended essays in world religions focus on a specific religious text, image, artefact, space, ritual, tradition or practice, or choose to explore a religious concept within a specified religious tradition or compare it against how it manifests in another religious system of belief (e.g., the concept of the sacred in the iconographic traditions of the Eastern Orthodox and the non-iconographic tradition of early Islam).

## Sciences

For science subjects like biology, chemistry, physics, and sports, exercise and health science, you are strongly encouraged to conduct primary research in the form of experiments, surveys, observations, fieldwork studies and the like, but should also complement such research with secondary data and literature reviews.

### Biology

An extended essay in biology allows for an exploration into the nature, modalities, functions, cycles, composition and structures of living organisms. It also includes explorations into the relationships between organisms (e.g., symbiotic or parasitic) and the effects of external factors (e.g., heat, cold, radiation) on their overall nature and development.

### Chemistry

An extended essay in chemistry allows for an exploration into the underlying patterns of matter at the microscopic level in order to control and manipulate it at the macroscopic level (e.g., the impact of temperature changes on chemical structures, reaction rates or acidity levels).

There is also scope here to investigate the effectiveness and/or reliability of certain models, theories and laws within chemistry in terms of their real-world application or usefulness (e.g., evaluating the predictive power of the periodic law when it comes to discovering new elements).

### Computer science

An extended essay in computer science allows you to investigate the fundamental concepts of computational thinking and/or how computers and affiliated digital devices operate (e.g., the algorithmic structure of their operating systems or the protocols and rules that govern their functions).

Other potential areas for exploration include trends and advances in computing (e.g., the use of large language models (LLMs) or deep learning super sampling (DLSS) in video game design), the efficacy of computing technologies in solving real-world problems (e.g., blockchains as a means of securing transactions or the efficacy of AI bots in troubleshooting applications) and even futuristic topics (e.g., the threat of quantum computing to digital encryption).

In all cases, it is expected that you have a sound grasp of computer science theories, approaches and methods of analysis and that your essay avoids merely describing advancements in computing. Similarly, though programming skills and knowledge of computer languages can be useful, the focus should not be on demonstrating your programming skills but rather on your ability to research an aspect of computing and evaluate its implications for society.

### Note

It is possible to write a biology, chemistry, physics or sports, exercise and health science extended essay entirely based upon secondary research findings (especially when the topic chosen goes well beyond what a Diploma Programme student is able to investigate on their own or within the context of a school laboratory). However, care must be taken not to simply repeat what has been said but rather to ensure the data is manipulated and analysed in an original manner.

### Design technology

An extended essay in design technology encourages the investigation of all manner of design processes and modalities of design thinking. This allows you to evaluate the impact of products or systems on either an individual or societal level. For example, you might look at the relationship between a product and the intended user base (e.g., the elderly, construction workers, production line operators) by assessing the viability, deficiency or suitability of the product. Alternatively, you might evaluate the impact of new technologies on existing designs and products (e.g., the impact of 3D printing on home design and construction).

A design technology extended essay can be strengthened through the use of either practical or experimental work. This could take the form of product and material tests, modelling to assess efficiencies or deficiencies, prototyping and other approaches found in the Diploma Programme course.

### Environmental systems and societies

See Cross-disciplinary subjects on page 16.

### Physics

An extended essay in physics allows you to explore questions relating to the fundamental laws, functions and properties of the physical world, albeit in a more specific and narrower sense. For instance, broad areas in physics such as energy or mass can be a starting point for a more specific investigation into something like the relationship between kinetic energy and athletic performance, the manner in which the length and tension of a guitar string affects its sound output or the effect of mass on a rocket's trajectory into space.

### Sports, exercise and health science (SEHS)

An extended essay in sports, exercise and health science allows you to explore all manner of questions relating to sports, exercise and/or health, including how these interrelate and affect one another.

Areas for potential investigation include human physiology, biomechanics, skill acquisition, nutrition, metabolism, fitness and other similar topics, albeit all narrowly focused on sport(s).

### Ethical guidelines for all sciences

In the case of all science extended essays that rely on experimentation as a means to produce primary data, strict care must be taken to avoid experiments which:

- cause harm to the researcher(s) and/or the subject(s)
- utilize materials, equipment or methods that are deemed dangerous
- involve access and publication of confidential medical or similar information.

Adequate safety equipment should always be worn and safety procedures should be followed in all instances.

If you are planning to write a science extended essay, you should first become familiar with the following publications by the IB:

- *IB Ethical guidelines for extended essays research and fieldwork*
- *IB Sciences experimentation guidelines.*

## Mathematics

An extended essay in mathematics grants you the freedom to explore almost any topic that has a mathematical focus. For example, extended essays in this subject could be written on any of the following categories (among others):

- the application of mathematics in solving real-world and abstract problems (e.g., the use of differential or computational geometry to predict the behaviour of certain materials under duress)
- the aesthetics, elegance and beauty of mathematics (e.g., elegant proofs such as quadratic reciprocity, connections between two seemingly unrelated areas of mathematics, such as with Euler's identity or fractal theory)
- the macro-historic development of a branch or type of mathematics (e.g., irrational numbers, set theory and Cartesian geometry)
- the historical effect of technology on mathematics; this might include the linking of different branches to each other, the development of particular mathematics or the bringing about of entirely new branches (e.g., the impact of the abacus on calculus or the role played by early computers on recursion or domain theory).

In all cases, special care must be taken to focus on the mathematics of the topics chosen. For example, if you were to write your essay on the relationship between aesthetics and mathematics as seen in a particular art or architectural style then you should focus on things such as the golden ratio, symmetry and proportionality as the basis from which to reach a conclusion about the role mathematics plays in shaping aesthetic judgements.

Likewise, if you were to write an essay on the 357-year process that led to the solution to Fermat's Last Theorem in 1994 by Andrew Wiles, then you would need to account for the various stages of mathematical development and proofs attempted in the lead-up to the solution.

## Arts

### Dance

An extended essay in dance allows for an investigation of:

- particular dance(s), such as the tango or merengue
- dance choreographies and sequence(s), such as the thàth and bol sequences in classical Indian Kathak dance
- style(s) or tradition(s), such as ballet, tap dancing or the traditional Chinese folk dance yangge.

A key aspect of dance extended essays is a consideration of the role the chosen dance plays within its cultural context (e.g., the way in which kuduro highlights or incorporates the personal and collective identities of Angola's regions).

The essay's main focus must be on the dance itself and its choreographic elements—that is to say, how body and gesture communicate meaning, intent and purpose to an audience.

### Note

Though music often plays a key role in dance, it is important that a dance extended essay does not focus solely on an analysis of the musical elements but rather showcases the manner in which they contribute to an understanding of the dance itself.



**Note**

Film essays should not use student questionnaires or polls as they add little objective value.

**Film**

An extended essay in film allows you to explore a broad range of topics relating to film and/or television. This can include, though is not limited to:

- a director's use of film techniques (e.g., camera angles, set design, editing, cinematography and non-diegetic sound) to communicate or subvert a film's themes (e.g., how camera shots and lighting accentuate the theme of grief in Krzysztof Kieślowski's *Three Colours: Blue* and Radha Blank's *The Forty-Year-Old Version*) or to effectively create a certain mood or feeling among the audience (e.g., how Alfred Hitchcock's use of rapid cuts and non-diegetic sound in his films increases the sense of suspense and horror)
- the implementation and/or impact of film theory on a particular film style, genre or director (e.g., an exploration of Quentin Tarantino's films to evaluate if he fits the auteur theory of film or a feminist analysis of Greta Gerwig's *Barbie*)
- the impact of a particular director, film or TV series in shaping trends in the industry (e.g., how Matt Reeves' "found footage" presentation of *Cloverfield* helped reinvigorate the *kaiju* genre)
- the effective translation of theatrical plays or books into films or TV adaptations (e.g., Stanley Kubrick's treatment of Stephen King's novel *The Shining*).

In all cases, the investigation must be rooted in specific films or television shows (a minimum of two) which act as the context through which the research question is explored and answered.

Film essays should primarily focus on the films or TV shows they set out to explore, but could also include sources such as scripts, screenplays, storyboards, scores and interviews with actors/directors/technical crew. Use of secondary sources such as film books, journals, DVD extras or reviews that add additional academic or critical commentary are also recommended.

**Literature and performance**

See Cross-disciplinary subjects on page 16.

**Note**

In general, avoid topics that relate to:

- the use of music as a form of therapy or for educational purposes (which may be better suited to psychology extended essays)
- histories of musicians' lives or accounts of the development of instruments or certain fields of music (which may be better suited to history extended essays)
- analyses of lyrics (which are usually better suited to language A or language B extended essays).

**Music**

An extended essay in music allows you to explore a broad range of topics relating to music. This can include, though is not limited to, musical:

- works or pieces (e.g., the extent to which Led Zeppelin's fourth album adheres to the conventions of blues music)
- practices (e.g., the combined use of classical and hybrid instrumentation in Hans Zimmer's score for *Dune (Part I)*)
- techniques (e.g., the effectiveness of the arpeggio technique to convey mood in Jonathan Dunn's and Neil Baldwin's Commodore 64 games *Darkman* and *Magician*)
- performances and performers (e.g., a comparison of the singing styles of Maria Callas and Renata Tebaldi in their 1950s performances of *Tosca*)
- genres, cultures and traditions (e.g., the role of gospel music traditions in Aretha Franklin's early work *Songs of Faith*)
- composition (e.g., an exploration of certain compositional elements of *rāga* and *tā!a* as found in Carnatic music from southern India).

## Theatre

An extended essay in theatre allows you to explore a broad range of topics relating specifically to theatre. This can include, though is not limited to:

- performers and performances (e.g., a comparison of Gavin Richards' 1984 and Daniel Rigby's 2023 performances of the madman character in *Accidental Death of an Anarchist*)
- techniques and methods (e.g., the effectiveness of physical theatre techniques to convey movement and action in Barn Theatre's 2019 production of *The 39 Steps*)
- styles, types and genres (e.g., how closely the 2011 performance of *One Man, Two Guvnors* directed by Nicholas Hytner and Robin Lough adheres to the conventions of *Commedia dell'arte*)
- cultures and traditions (e.g., a comparison of the use of masks in classical Japanese *noh* and Greek theatre)
- stagecraft and design (e.g., the extent to which Pink Floyd's use of theatrical stagecraft techniques in their 1980s *The Wall* concert transformed it into a piece of theatre).

Theatre essays should not focus on a literary analysis of texts (which is better suited to a language A, language B or literature and performance extended essay) but rather on how texts are translated into the physical medium of a performing art.

## Visual arts

Extended essays in visual arts allow you to explore any manner of question relating to the production, expression and impact of artworks, be they paintings, photographs, drawings, ceramics, sculptures, designs, videos, architecture or similar forms of visual culture. This can include, though is not limited to:

- the relationship of artists and art (e.g., the extent to which Louise Bourgeois' *Destruction of the Father* and *Maman* could be deemed confessional art)
- explorations of themes (e.g., the success of Jesse Darling's work in communicating societal breakdown)
- the influences of artistic traditions on artists or those shaping artistic traditions (e.g., how far *Japonisme* influenced the impressionist works of Claude Monet or the extent to which commercial media influenced Jean-Michel Basquiat's work)
- the use of materials, objects, methods and techniques to convey a particular effect (e.g., the extent to which Angela Burson's selection of objects helps convey a biographical narrative in her *Travelers* series or how Ken Graves' use of magazine clippings and collage helps accentuate the social commentary of his work)
- explorations of artistic spaces and buildings (e.g., the extent to which the National Gallery's Sainsbury Wing in London, UK, designed by Robert Venturi and Denise Scott Brown presents a postmodern challenge to the main gallery, or how effectively Antoni Gaudí's La Sagrada Família in Barcelona, Spain, employs organic architecture to convey the concept of creation)
- explorations of artistic theories and debates (e.g., the extent to which Frank Gehry's buildings, LUMA Arles Tower and the Fondation Louis Vuitton, challenge the notion that form follows function, or whether the works of known art forger Thomas Patrick Keating could be deemed original works of art).

## Note

As with extended essays in sciences, ethical guidelines must be adhered to, especially when conducting experiments that involve flora or fauna or the wider environment. For more on this, see Chapter 2, pages 30–31.

## Cross-disciplinary subjects

### Environmental systems and societies (ESS)

An extended essay in ESS allows you to explore a question focused on the interplay between environmental systems and human societies.

One of the key advantages of an ESS essay is that you can use your own environment (both natural and human) as a focus of the investigation (e.g., exploring the ecological footprint of a local golf course or the sustainability of a local recycling scheme). Other areas for exploration could include:

- the impact of introduced species on indigenous ones (e.g., the introduction of cane toads into northern Queensland, Australia and its impact on quoll populations)
- the effects of global weather patterns on a specific geography and/or human environment (e.g., how the Indian Ocean Dipole of 2007 affected sheep farms in New South Wales, Australia)
- government policies and their environmental and societal impact (e.g., the phosphate mining policies of the government of the Republic of Nauru and their impact on water quality on the island nation)
- natural solutions for human-polluted environments (e.g., the effective use of oysters to clean up the Hudson River in New York State, USA)
- the economics of conservation (e.g., the extent to which the Democratic Socialist Republic of Sri Lanka's economic crisis has affected the Wasgamuwa National Park's elephant conservation efforts)
- sustainability and environmental protections (e.g., the effectiveness of the United Arab Emirates' cloud seeding campaign CLOUDIX on securing sustainable water supplies for the country).

### Literature and performance

An extended essay in literature and performance allows you to explore a play's written text and performance components (such as staging, acting, pace, lighting, props or costume). Though a literature and performance extended essay borrows from the methodologies of both language A and theatre, it stands apart in that its main purpose is to explore the creative interplay between both elements with a key focus on the transformation or translation of one form into the other (i.e., text to performance or performance to text).

Areas for possible exploration include:

- the expanding on themes (e.g., a study of how Anne-Louise Sarks' 2015 production of *Medea* expands on the themes of the original text by Euripides)
- how modern-day performances challenge or enhance the original text's meaning (e.g., how William Shakespeare's *Macbeth* set during the Apartheid in South Africa can more readily convey the abuse of power)
- cultural appropriation or alteration (e.g., a study of the changes required to adapt Henrik Ibsen's *A Doll's House* for a non-Norwegian context)



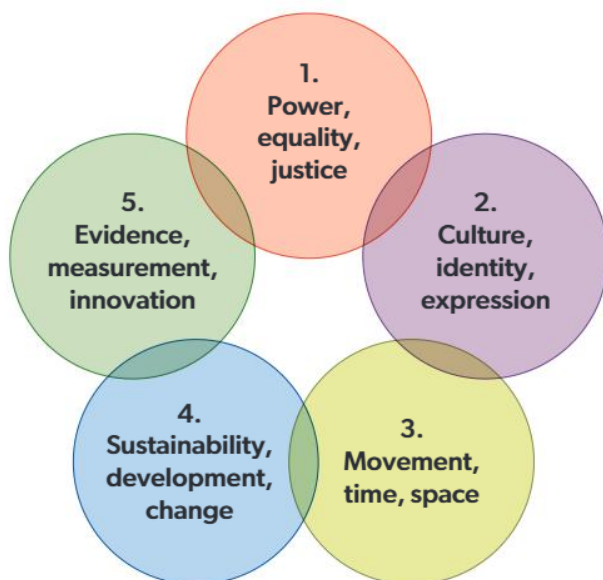
- how well an improvised work translates into text (e.g., challenges faced by playwrights in translating the improvisational elements of the Artificial Intelligence comedy troupe's *Tony n' Tina's Wedding* into a script that other performers can follow)
- the translation of novels into theatrical performance (e.g., how faithful Lin-Manuel Miranda's theatrical production of *Hamilton* is to Ron Chernow's book *Alexander Hamilton*)
- the use of props and puppets (e.g., how puppetry is used in Nick Stafford's production of *War Horse* to convey effectively the bond between human and animal as found in Michael Morpurgo's original novel).

## Interdisciplinary extended essays

As of 2027, you may write an extended essay in any two of the available subjects listed above (excluding ESS and literature and performance, which cannot be used as part of an interdisciplinary essay as they already include a multi-disciplinary approach). For instance, you could write an extended essay in history and geography or in biology and chemistry. In this case, any proposed research question will need to be tackled through both of the chosen subjects' sources and methodological approaches.

In all cases though, the methodological approaches and scope of each subject as noted in the sections above should be adhered to very closely. For instance, if a literary analysis of a play is part of the proposed interdisciplinary extended essay then one of the chosen subjects should be a language A or B rather than theatre in which literary analysis is not a means of exploration.

All interdisciplinary extended essays should fit into one of the five IB-approved frameworks:



These are broad topic areas that will allow you to position and shape your investigation as a whole and must be included on the cover page of your essay and used as part of the extended essay registration process by your school.

### Note

These areas are not meant to be limiting as they often overlap (e.g., an essay covering power as its key focus may also explore its impact on culture, and vice versa). Nor are you obligated to cover all the words in each framework (e.g., under "Sustainability, development, change", you may choose just sustainability as your key focus and omit mention to development and change).

## Quiz

Divide into pairs and test your partner with the following quiz.

### 1. What is the maximum word count for your extended essay?

- a. 5,000
- b. 4,000
- c. 3,000
- d. No word limit

### 2. What is the maximum mark allocation?

- a. 30
- b. 32
- c. 34
- d. 36

### 3. What is an RPF?

- a. A mandatory form that needs to be submitted to the IB, which is your summative reflection written by you and signed by your supervisor.
- b. A mandatory form that includes yours and your supervisor's details along with the research question.
- c. A mandatory form that acts as the extended essay's cover page.
- d. An optional form that can be used to track your planning and progress at three key points decided upon by you and your supervisor.

### 4. What is the correct approach to citations in an extended essay?

- a. Cite all works read as background information and the actual ones used in the essay itself.
- b. Cite only the works used in the essay itself, except for images or tables.
- c. Cite only the works used in the essay itself, including images or tables.
- d. No need to cite any works as it is not a formal requirement.

### 5. How many hours does the IB recommend that you spend on the extended essay as a whole?

- a. No time limit set
- b. 40
- c. 24
- d. 5

### 6. Which of the following statements is true with regards to the role of your supervisor?

- a. They are not permitted to edit your work.
- b. They are not permitted to set the research question for you to respond to.
- c. They can offer you support in terms of planning your essay.
- d. All of the above.



**7. Which of the following can be considered a cultural artefact for language B essays?**

- a. A cartoon
- b. A newspaper
- c. An advertisement
- d. All of the above.

**8. Which of these are two IB cross-disciplinary courses?**

- a. Environmental systems and societies; Social and cultural anthropology
- b. Environmental systems and societies; Sports, exercise and health science
- c. Environmental systems and societies; Literature and performance
- d. Environmental systems and societies; Digital society

**9. What is a key guideline to bear in mind for language A extended essays?**

- a. All text(s) analysed in the essay must have been originally written in the target language of the essay itself.
- b. The text(s) analysed in the essay must have been originally written in a different language to that of the essay itself.
- c. At least one text must have been written in the target language of the essay.
- d. There are no guidelines for language.

**10. What should you not include in your final submission?**

- a. Your name and your school's name within the essay.
- b. Recorded material (e.g., a film clip).
- c. Your supervisor's name and your school.
- d. All of the above.

**11. Which of the following are penalized if you exceed the word limit?**

- a. Criteria A and B
- b. Criteria C and D
- c. Criterion D
- d. Potentially all of the above.

**12. What are the five assessment criteria?**

- a. Framework for the essay, knowledge and understanding, analysis and evaluation of argument, discussion and line of argument, reflections.
- b. Framework for the essay, knowledge and understanding, analysis and line of argument, discussion and evaluation, reflection.
- c. Framework for the essay, knowledge and understanding, critical thinking, discussion and evaluation, reflection.
- d. Framework for the essay, knowledge and understanding, analysis and line of argument, discussion and evaluation, engagement.

Answers to the quiz can be found on page 162.





2

## Getting started

The process of writing an extended essay can be outlined in four steps, as shown in the diagram. The first stage is defining your research question. All extended essays require you to formulate your own research question that will invite an investigation and can be meaningfully answered within the prescribed limit of 4,000 words. Most crucially, all extended essays should allow for a critical investigation and analysis of a chosen topic using a range of subject-specific skills. Essays that are largely narrative or descriptive in nature will not fare well when it comes to their assessment.

## Subject and topic

As a starting point, always opt for topics that are of interest to you. Consider the following questions and example answers:

1. Which subjects have you really enjoyed?		
English literature	History	Biology
2. Which topic areas, themes or periods have you been intrigued by within these subject areas?		
21st-century literature	Ancient Greece	Microorganisms
Social class	Spartans	Bacteria
Relationships	Greco-Persian Wars	

## Designing a research question

Once you've completed the table for yourself you will have a starting point for the development of your research question. For example, your first column may indicate that you are interested in writing an extended essay on the following:

The theme of social class in 21st-century texts

This, however, is quite a broad topic. It will need to be much narrower to be a **workable research question**.

A useful technique to narrow down your question is to start applying **limiting factors** to the broad topic you've initially selected.

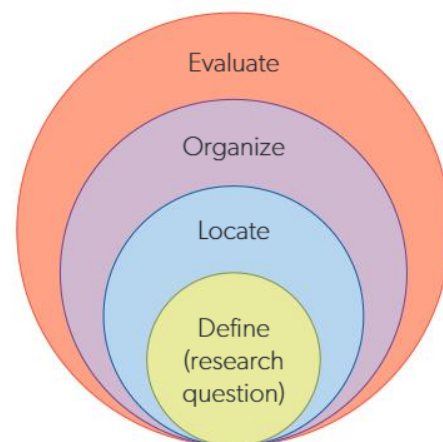
Taking the example above, a limiting factor would emerge from asking:

Which novelist from the 21st century am I interested in?

The answer to this will limit the scope of the investigation to a specific author, thus limiting the range from an initial and very broad topic of "21st-century texts" to a specific novelist from the 21st century. The original title above could now be refined to this:

The theme of social class in the novels of Kiran Desai

However, this is still too broad a basis for a research question as there are simply too many Desai novels to be able to successfully answer this within the word limit. More questions would therefore need to be asked to help limit the scope of the investigation further.



### Key terms

A **workable research question** is a question with a clear focus that can be successfully answered within the given word limit.

**Limiting factors** are relevant sub-areas for investigation that help limit the scope of your research question.

## Refining your research question

As you will see in the table below, you can narrow down the scope of your investigation by taking each aspect of the question in turn and asking what the possible limiting factors could be (highlighted in yellow).

Subject: English (language A)	
<b>Original title:</b> The theme of social class in 21st-century texts	
Limiting factor	21st-century texts
Question	Which novels or novelists from the 21st century am I interested in?
Answer	Kiran Desai



<b>Refined title:</b> The theme of social class in the novels of Kiran Desai	
Limiting factor	Kiran Desai
Question	Which specific work(s) by Desai?
Answer	<i>The Inheritance of Loss</i>



<b>Refined title:</b> The theme of social class in <i>The Inheritance of Loss</i> by Kiran Desai	
Limiting factor	Social class
Question	What aspect of social class?
Answer	Poverty vs privilege



<b>Refined title:</b> Desai's attitudes to power and privilege in <i>The Inheritance of Loss</i>	
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<b>Final question:</b> In what ways does Kiran Desai express her attitudes to the themes of power and privilege in her work <i>The Inheritance of Loss</i> ?	
--	--

Now you have a very good starting point to begin your extended essay research as your title has a clear focus and is narrow enough to be covered within the word limit.

Here are further examples of how you could apply limiting factors to a variety of subject-specific titles.

Subject: History	
<b>Original title:</b> Authoritarian states of the 20th century	
Limiting factor	Authoritarian states
Question	Which authoritarian states am I interested in?
Answer	Communism under Joseph Stalin and fascism under Benito Mussolini





→

**Refined title:** A comparison of the communist state in Russia under Joseph Stalin with the fascist state in Italy under Benito Mussolini

Limiting factor	Comparison, communist state, fascist state
Question	Which specific area of these two states am I interested in comparing?
Answer	Who was more effective in controlling their citizens



**Final title:** To what extent was Joseph Stalin's communist state more effective than Benito Mussolini's fascist state at controlling its citizens?

### Subject: Visual arts

**Original title:** The architecture of Le Corbusier

Limiting factor	Architecture
Question	What specific architecture from Le Corbusier's work am I interested in?
Answer	Villa Stein (Garches, France), Unité d'Habitation (Marseilles, France)



**Refined title:** An exploration into the works Villa Stein and Unité d'Habitation by architect Le Corbusier

Limiting factor	Villa Stein (Garches, France), Unité d'Habitation (Marseilles, France)
Question	Which specific aspect of these buildings do I want to explore?
Answer	The use of proportional systems such as Le Corbusier's "Modulor"



**Final title:** In what ways does Le Corbusier use the Modulor proportional system in the works Villa Stein and Unité d'Habitation?

### Subject: Psychology

**Original title:** The usefulness of music therapy

Limiting factor	Usefulness
Question	Useful in what manner or in what field?
Answer	As a palliative for dementia sufferers



**Refined title:** An evaluation of the success of music therapy as palliative care for sufferers of dementia

Limiting factor	Dementia
Question	Which specific type of dementia do I wish to explore?
Answer	Dementia of the Alzheimer Type (DAT)



**Final title:** To what extent can music therapy be deemed a successful palliative for the symptoms of Dementia of the Alzheimer Type (DAT)?

## Limiting factors

Here is a list of general terms that allow for the narrowing down (or “limiting”) of potential titles. They are all accompanied by examples showing how a title can be more sharply focused when the general terms (in red) are narrowed down by introducing “limiting” factors (in blue).

### Accuracy

Accurate in determining what exactly?	
Original title	How <b>accurate</b> are baseline tests such as the Cognitive Ability Test (CAT4) or Middle Years Information System (MidYIS) in education?
Revised title	To what extent can baseline tests such as CAT4 be seen as an accurate means of <b>determining student performance in the IB Middle Years Programme?</b>

### Aspect

Is there a specific aspect that could be investigated (for example, a particular military confrontation, a specific programme, a type of therapy or a specific law)?	
Original title	How effective was <b>Nazi propaganda</b> in <b>controlling its people?</b>
Revised title	How effective was <b>Nazi Youth propaganda</b> in terms of <b>indoctrinating German citizens aged 14–18?</b>

### Author

Which specific author/artist/scientist did you have in mind?	
Original title	How influential was <b>religious iconography</b> in the development of <b>abstract art?</b>
Revised title	To what extent does the <b>religious iconography of the Russian Orthodox Church</b> shape the <b>Composition series by Vasily Kandinsky?</b>

### Case study

Which case study did you wish to explore?	
Original title	Can <b>studies on language</b> conclusively show the impact of language on memory recall?
Revised title	How conclusive is the <b>1974 Loftus and Palmer study</b> when it comes to determining the effect of language on memory recall?

## Cause

**Is there a specific cause of what you are trying to ascertain or measure (for example, an event, a person or group, or a chemical)?**

Original title	The <b>re-election</b> of Juan Perón to the Argentine Presidency in 1951
Revised title	To what extent did the <b>extension of suffrage to Argentine women</b> help Juan Perón secure the 1951 presidential elections?

## Effect

**Is there a specific effect you are trying to ascertain or measure (for example, on behaviour or in terms of migration patterns or development of laws)?**

Original title	What accounts for <b>decreased levels of self-worth</b> among users aged 10–17?
Revised title	To what extent can <b>high engagement with social media apps</b> be seen as a major cause of decreased levels of self-worth among users aged 10–17?

## Effectiveness

**What exactly are you referring to by “effective”? Effective in what way?**

Original title	The <b>effectiveness</b> of mental toughness among American football players
Revised title	To what extent can mental toughness <b>improve the athletic performance</b> of American football players?

## Experiment

**Which experiment do you wish to explore or question the validity of?**

Original title	Can an <b>experiment in psychology</b> ever be objective?
Revised title	To what extent can <b>Benjamin Libet’s experiments on free will</b> be deemed objective?

## Factors

**Which specific factor do you want to focus on (for example, military, economic, social, cultural, religious, upbringing or nurturing)?**

Original title	The <b>Greek victory</b> over the Persians from 480 to 479 BCE
Revised title	To what extent was the <b>Battle of Thermopylae the most significant factor</b> in the Greek victory over the Persians?



### Features

Which specific feature of a system do you wish to explore in your essay (for example, compositional, database or connectivity)?	
Original title	<b>In-flight services</b> provided by a major airline
Revised title	To what extent does the introduction of the <b>Tempus system</b> on airline A <b>improve in-flight healthcare</b> ?

### Location

Which country, city or location do you want to investigate?	
Original title	<b>Implementation</b> of Ravenstein's migration laws
Revised title	To what extent can Ravenstein's migration laws be applied to <b>Dubai in the United Arab Emirates</b> ?

### Material

Is there a specific material that lends itself well to your investigation (for example, a specific chemical, a metallic substance or a piece of technology)?	
Original title	The rate of enamel decay as a result of <b>drinking orange juice</b> as compared to <b>whitening toothpastes</b>
Revised title	Is the concentration of <b>citric acid</b> found in orange juice more effective at stripping tooth enamel than the <b>hydrogen peroxide</b> found in whitening toothpaste?

### Methodology

Is there a specific method you want to investigate in terms of your approach?	
Original title	Which <b>method</b> works best for determining cash-flow optimization in the banking sector?
Revised title	How effective is the <b>Taguchi method</b> in determining optimal cash-flow levels in the banking sector?

### Process

Is there a specific process or model that you could refer to (for example, a specific model, research model or interpretation model)?	
Original title	Company A's <b>business model</b> in improving sales between 2000 and 2005
Revised title	To what extent did the <b>change from a business-to-business model to a business-to-consumer model</b> help improve sales for company A from 2000 to 2005?

## Reliability

### Reliable in determining what or when compared to what exactly?

Original title	The reliability of <b>meteorological (weather) forecast models</b>
Revised title	To what extent can the use of <b>Model Output Statistics</b> produce reliable results when it comes to making <b>hurricane predictions</b> ?

## School

### Is there a specific school of thought or movement you had in mind on which to base your interpretation or reading?

Original title	A <b>close reading</b> of William Faulkner's <i>As I Lay Dying</i>
Revised title	In what ways can William Faulkner's novel <i>As I Lay Dying</i> be seen as representative of the <b>Cubist Movement</b> ?

## Skills

### Which specific skill(s) do you wish to explore (for example, numeracy, literacy or computational)?

Original title	Use of AI-powered platforms in <b>classroom learning</b>
Revised title	In what ways does the use of AI-powered learning platforms improve the <b>computational skills</b> of students aged 5–10?

## Society

### Is there a specific type of social structure you'd like to explore (such as patriarchal, matriarchal or industrial)?

Original title	Conflict between <b>traditional and contemporary wedding practices</b> in India
Revised title	To what extent can contemporary wedding practices in India be deemed a break from the <b>societal principles</b> enshrined in the <b>Manuvād system</b> ?

## Technique

### Is there a specific technique you want to investigate in terms of your approach?

Original title	<b>Criticisms of slavery</b> as seen in Kara Walker's <i>Insurrection! (Our Tools Were Rudimentary, Yet We Pressed On)</i> artwork
Revised title	To what extent does the use of <b>light projections and silhouettes</b> convey the horror of colonial slavery in Kara Walker's <i>Insurrection! (Our Tools Were Rudimentary, Yet We Pressed On)</i> artwork?

## Texts

Which specific text did you have in mind to focus your investigation on?	
Original title	Representations of autism in <b>contemporary literature</b>
Revised title	In what ways does Mark Haddon use the first-person perspective to represent autism in his novel <i>The Curious Incident of the Dog in the Night-Time</i> ?

## Time period

Which specific period in time do you want to investigate (for example, a defined period such as a decade or a specific event in time)?	
Original title	Impact of the White Australia policy on <b>Australia's economy</b>
Revised title	To what extent was the implementation of the White Australia policy in 1901 detrimental to Federated Australia's <b>economic development from 1901 to 1920</b> ?

## Type

Is there a specific product, version or design you have in mind?	
Original title	The ergonomic design of modern-day <b>console controllers</b>
Revised title	How have ergonomic factors been considered in the design of the <b>PlayStation 5™ controller</b> to maximize first-person shooter (FPS) gameplay efficiency?

## Comparisons

Occasionally, in the process of researching and reading for your selected title, you may discover a comparison (for example, a text, person, event or idea) that will lend the essay a more robust investigative focus. There is absolutely nothing wrong with expanding the reach of your essay to include a comparison, provided that a meaningful comparison can be made within the word limit.

For example, in the English (language A) question used earlier: "In what ways does Kiran Desai express her attitudes to the themes of power and privilege in her work *The Inheritance of Loss*?", the comparative element could alter the title to the following:

How do Kiran Desai and Harper Lee express differing attitudes towards the themes of poverty and privilege inherent in their respective works *The Inheritance of Loss* and *To Kill a Mockingbird*?

Another option might be to compare two novels by one author, provided they showed some difference in terms of how the author approached a particular theme or topic (for example, a work from their earlier years compared to one written much later in their life, when their attitudes may have changed with time).

### Tip

If your original question is proving too narrow, consider adding a comparative element.



Below are examples of the comparative element added to a research question in biology and history:

<b>Biology: non-comparative</b>	To what extent do natural products reduce the growth of normal microflora ( <i>candida albicans</i> and <i>streptococcus mutans</i> ) in the oral cavity?
<b>Biology: comparative</b>	To what extent do natural products reduce the growth of normal microflora ( <i>candida albicans</i> and <i>streptococcus mutans</i> ) in the oral cavity and differ in effect as compared to commercial mouthwashes?
<b>History: non-comparative</b>	To what extent can Anna Komnene's <i>The Alexiad</i> be considered a reliable account of the Norman conquests in the Mediterranean?
<b>History: comparative</b>	To what extent can Anna Komnene's <i>The Alexiad</i> and William of Apulia's <i>Gesta Roberti Wiscardi</i> be considered reliable accounts of the Norman conquest in the Mediterranean?

## Question vs title

All extended essays **must frame their investigation in the form of a research question**, written up as a question rather than a title. However, this does not mean that when it comes to designing your research question you cannot begin with a title or hypothesis, provided that the finished version is in the form of a question.

Below is an example of how a working title in an English (language A) extended essay could be converted into a question:

<b>Title format</b>	The subversion of the archetypal depictions and classifications of the "hero" in George R. R. Martin's novel <i>A Game of Thrones</i> .
<b>Question format</b>	How does George R. R. Martin subvert the archetypal depictions and classifications of the "hero" in his novel <i>A Game of Thrones</i> ?

## Question starters

Below is a list of common question starters that may help you design your own research question or convert a working title into a question format.

### Note

The question starter "To what extent ..." is often the most popular and successful as "extent" implies a degree of comparison, analysis and evaluation. However, this only works if your essay is actively comparing and measuring to determine the extent to which various factors contributed the most or least.

### Note

It is still possible to include a title as part of a cover page in addition to the research question. It is also perfectly fine to include hypotheses or titles for the purpose of section or chapter headings within the body of the essay itself. This often helps when planning how to break your research question into smaller, more manageable parts.

### Tip

A good question starter can help you avoid writing a descriptive or narrative essay.

Question starter	Description
To what extent ...	Allows for an evaluation of the degree (extent) to which something is true or a contributing factor. To effectively answer this type of question, the main body of the essay should include considerations of other influencing factors. For example, a question relating to the extent to which the Spanish Constitution of 1931 caused the civil war of 1936 could potentially examine the role played by the military, external nations and other factors in order to more fully answer the “extent” aspect of the question
How significant/ impactful was the role of ...	Allows for an analysis of a specific factor or the contribution of something or someone
How accurate/ reliable ...	Allows for an exploration relating to accuracy or usefulness
How far could one argue ...	Allows for the analysis to focus on the accuracy or truthfulness of a specific argument or line of enquiry
How successful ...	Allows for an evaluation of the success of an approach, method, policy, style and so on in an associated area (e.g., the success of a political policy on the economic development of a region)
How crucial/ significant ...	Allows for an analysis of the significance of one or more factors on other associated areas
Which factor(s) played ...	Allows for an investigation around key factors
Has the introduction (or cancellation) of ... resulted in ...	Allows for a cause-and-effect investigation
Does process/ approach A provide ...	Allows for a focused investigation on the result of a specific method followed or technique used
What is the contribution/ influence of ...	Allows for a focused investigation on the impact (positive or negative) of a certain individual, group, material or concept on a broader area (e.g., on a specific society)
What evidence is there to support ...	Allows for an investigation into the nature of evidence and the extent to which it can support a thesis or approach
What is the impact of ...	A straightforward causal investigation
Is it possible to determine ...	An investigation into hypothetical frameworks based on existing and available evidence
Under what circumstances may ...	Allows for an investigation into the conditions required before A or B is deemed possible (e.g., for a business to expand)
Is there a correlation between ...	Allows for an investigation into the relationship between two or more factors

## Feasibility

Having a good research question is very important; however, equally as important is ensuring that this question is feasible.

In order to evaluate the feasibility of a question it should meet a series of requirements, including source materials, equipment access and ethical guidelines, all of which will be outlined below.

### Locating sources

Once you have arrived at a workable research question (or title), the next step is to see if you can find and access enough source material to begin your actual research investigation. This often takes the form of locating either primary or secondary sources (or a combination of both, in some instances) which will form the initial, core body of your work. This material will be the base of your analysis while simultaneously acting as an indication of whether such an investigation is feasible in the first place.

Having said this, not every extended essay subject requires the use of primary and/or secondary sources (at least, not to the same extent).

### Ethical guidelines for extended essays research and fieldwork

- Extended essay students must exercise the greatest sensitivity to local and international cultures.
- Any research or fieldwork that creates anxiety, stress, pain or discomfort for participants is not permitted.
- Any research or fieldwork that involves unjustified deception, involuntary participation or invasion of privacy, including inappropriate use of information technology (IT), email and the internet, is prohibited.
- All participants in research activities must be informed before commencing the research that they have the right to withdraw at any time. Pressure must not be placed on any individual participant to continue with the investigation beyond this point.
- Each participant must be informed of the aims and objectives of the research and in addition be shown the results of the research.
- Informed consent should be obtained from the people who are the subject of the fieldwork. Research involving children needs the written consent of parent(s) or guardian(s). You must ensure that parents are fully informed about the implications for children who take part in such research. Where research is conducted with children in a school, the written consent of the teachers concerned must also be obtained.
- Extended essay students must avoid conducting research with any adult who is not in a fit state of mind and cannot respond freely and independently.
- If any participant shows stress and/or pain at any stage of the research, the research must finish immediately, and the participant must be allowed to withdraw.
- Participants must be debriefed and given the right to withdraw their own personal data and responses. Anonymity for each participant must be guaranteed.

### Note

The best questions do not always make the best extended essays if they cannot be researched effectively.

For a useful feasibility checklist, see page 35.

### Tip

As a rule of thumb, it is useful to identify at least 5–10 sources that relate to your research question (or title) in order to ensure that the question is feasible. This is not a hard-and-fast rule, but it is useful in a number of ways:

- proving to yourself (and your potential supervisor) the feasibility of your question
- providing a starting basis for your investigation
- situating your work in a wider body of research.

Chapter 3 provides more support on locating suitable source material for an extended essay, along with a list of subjects and the degree to which each requires either primary or secondary (or both) source material (see Chapter 3, pages 38–48).

### Note

IB science students should also refer to the *IB Sciences experimentation guidelines* published in 2023.

- All data collected must be kept in a confidential and responsible manner and not divulged to any other person.
- Research that is conducted online, using IT methods, is subject to the same guidelines. Any data collected online must be deleted once the research has been completed. Such data must not be used for any purpose other than the conduct of the research.

**Source:** *IB Ethical guidelines for extended essays research and fieldwork*, 2011

## Disproving a research question

Many students often worry that their questions must be framed in a manner that can be positively proven. That is to say, the key thesis contained in their question must be correct.

For example, if you want to write a history extended essay on the American War of Independence, you may opt for a question such as:

To what extent was George Washington's leadership a key factor in the American victory over the British during the American War of Independence (1775–1783)?

Even though there were certainly other factors, the conclusion to this question will more or less agree with the main thesis contained within it (that is, that Washington was indeed a key factor behind the American victory). Naturally, there is nothing wrong with a question like this, but you should not be afraid to explore alternative theses that your essay could disprove.

For example, taking the same historical episode, an alternative question could be:

To what extent was the French and Spanish entry into the American War of Independence during 1778 to 1779 the key factor behind the American victory in 1783?

Here the question presents an apparent negative in that the French and Spanish contributions were **not** conclusively the key factor. You may therefore be tempted to reject using such a question because your conclusion will end up disproving the question's key thesis.

However, there is nothing wrong with using such questions in your extended essay as it shows the hallmarks of good research. If you pursued an essay such as this, you could mention the Franco-Spanish contributions followed by all the other factors that played a part in the American victory (for example, Washington's leadership, the geography, British mistakes, economic factors and military manoeuvres) before concluding that the War of Independence was won due to a variety of factors. In your conclusion you can assess the degree to which the Franco-Spanish contributions could be deemed "key" when compared against the other factors raised in the body of your essay. Provided this evaluation was present, this type of question opens up many opportunities for focused analysis and reasoned assessment.

### Note

Remember that one of the central pillars of the extended essay is for you to wrestle with all the associated aspects of independent research. This often entails proposing a thesis that ends up being disproven! Academic circles often seek to disprove, as well as prove, a hypothesis in order to push knowledge a little further on. The key is to provide proof either affirming or disproving your thesis and not to worry if you end up disagreeing with your question's main thesis.

### Tip

It is recommended that you avoid changing your subject and topic after your first formal reflection session (usually a few months into the first year of your IB studies) as not only may it lead to a loss of marks under Criterion E, but you will also find yourself well behind in terms of preparation given the time remaining.

Adding a note in your Researcher's Reflection Space (RRS) and then again reflecting on this change in your reflection and progress form (RPF) is also highly recommended as it will demonstrate the perfectly natural process of refining and re-evaluating that occurs with all research-oriented investigations.



## Changing your research question

### Change of subject and topic

You may find yourself changing your research question quite a bit as your interests shift or as you encounter obstacles—usually in the shape of a lack of sources. As a result, you may find yourself wishing to change topics and/or subjects completely. This is perfectly normal, however, you should set yourself a cut-off point after which no more changes are permissible.

Each school will also have different logistical considerations to wrestle with (such as supervisor availability and assessment calendars) so cut-off points may already be set by the school. It is always important to stick with these as your school has its own process through which it engages the extended essay. Having a good idea of what your research question will be within the first six months of your school's launch of the extended essay process can help reduce the pressure to complete the extended essay alongside your other Diploma Programme or course obligations. This does not mean, however, that tweaking and adjustments to a question are not possible throughout the process of writing your extended essay (more on this below).

### Adjustments to the research question

It is quite common, and even advisable, to constantly re-evaluate your research question in light of the reading and research you conduct on your topic. The reading and research phase will inevitably open up new pathways that you may not have considered previously, or it may shed new light on a different approach that can be followed.

The key point to remember is that your research question should:

- a. reflect what your essay is actually about
- b. be the question your conclusion responds to.

Essays often lose marks because the question on the cover page is not exactly what the student has ended up writing about in the body of the essay or, most commonly, not what the student has responded to in their conclusion. The best way to avoid this mismatch occurring is to adjust your research question to match what you **actually wrote about** in the end. Reread your essay and if you feel the analysis has shifted to a different focus (however slight) then go back and reverse engineer your research question to match it.

For more on the reflection sessions and Researcher's Reflection Space, see Chapter 7, pages 143–151.

An initial research question was:

Which factor best explains Pharaoh Hatshepsut's rise to power in 1478 BCE?

However, as the student began researching and reading about the pharaoh, they discovered that there was a lot more to be said about her consolidation of power as opposed to her rise to power. The question was thus adapted midway through the research to read:

Which factor best explains Pharaoh Hatshepsut's consolidation of power from 1478 to 1458 BCE?

Once the essay was near completion, the student noted that their essay leaned heavily on Hatshepsut's use of religious and diplomatic propaganda to gain control over Egypt and that this was in fact the underlying thread throughout the essay. The question was thus adapted again to read:

To what extent can Hatshepsut's use of religious and diplomatic propaganda be considered the key factor behind her consolidation of power from 1478 to 1458 BCE?

The key here is that the reading, research and eventual writing of the essay shaped the final research question so that the entire process was organic in nature: changing and adapting to suit where the work of the student led them.

# Worksheet: Design your own research question

## General areas of interest

1. Which subjects have you really enjoyed?		
Subject A:	Subject B:	Subject C:
2. Which topic areas, themes or periods have you been intrigued by within these subject areas?		

## Applying limiting factors

Subject	
Original question or title	
Limiting factor	
Refined question or title	
Limiting factor	
Refined question or title	
Limiting factor	
Refined question	

### Note

Use the table as needed to refine your original title into a workable research question. See pages 22–23 for examples of how this can be done. Remember: you must end up with a question and not a title.

### Tip

For the limiting factors, highlight or list the terms that can be limited.

## Feasibility check

	Tick
1. Are there sufficient primary sources available (if appropriate)?	
2. Are there sufficient secondary sources available (if appropriate)?	
3. Can you access the sources in your location?	
4. Do you have all the materials necessary to carry out your investigation at hand (e.g., chemicals)?	
5. Do you have all the equipment necessary to carry out your investigation at hand (e.g., laboratory equipment)?	
6. Can you access the materials and equipment in your location (have you gained necessary permissions)?	
7. Can you begin your research immediately (e.g., do you need to defer your research until the summer to visit specific places)?	
8. Can your research question be assessed against the extended essay criteria? (For more on this, see Chapter 7.)	
9. Are the chosen research methods or concepts underpinning your research question relevant and appropriate to the subject?	
10. Does your research meet all of the IB's <i>Ethical guidelines on research and fieldwork</i> ? (For guidelines on this, see page 30.)	

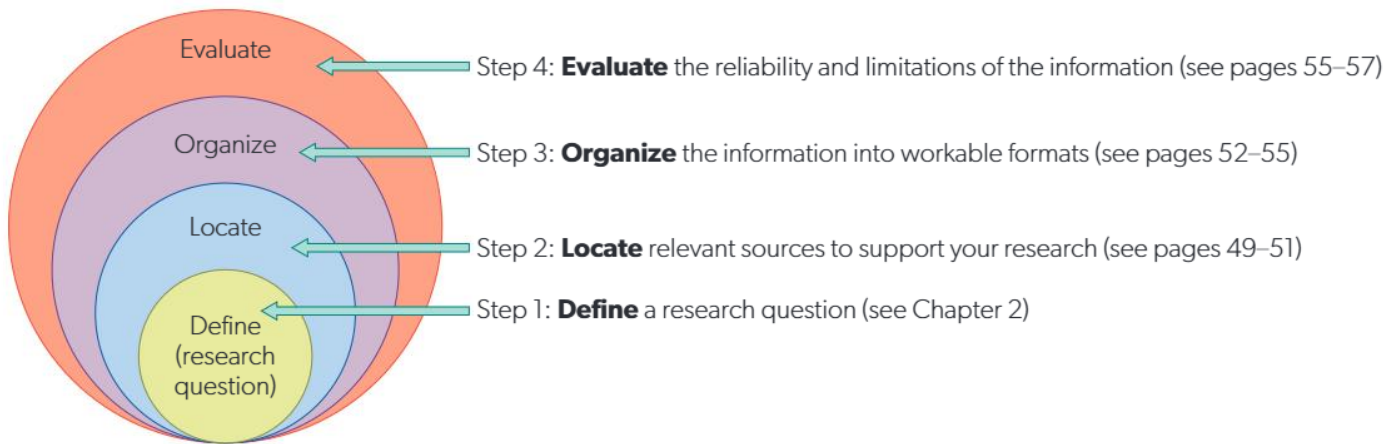


3

Locating,  
organizing  
and  
evaluating



After you have defined a research question, you are ready to move on to the next stage of the process. While Chapter 2 helped you in defining a research question (Step 1), this chapter is designed to help you locate (Step 2), organize (Step 3) and evaluate (Step 4) the myriad of research that will be an integral part of your extended essay process.



## Primary and secondary sources

Using a mixture of both **primary sources** and **secondary sources** often leads to a stronger essay as your own developmental and analytical points then have sufficient evidence-based support and grounding. As such, it is good practice to aim for the inclusion of both (though do check the subject-specific requirements as there may be certain caveats).

In all cases, the selection of source material should also be briefly and critically assessed in the body of the essay (for example, a consideration of the key source material's value, its limitations and/or relevance and utility to the investigation).

After designing your research question, you should be ready to locate a combination of primary and secondary sources relevant to your topic.

Sometimes the distinction between a primary and a secondary source is not straightforward. For example, for history essays, a text written at the time of the event may be considered a primary source; for language A or language B essays, literary texts are considered primary sources; for philosophy essays, any published text by a philosopher would constitute a primary source. Below you can see some examples of each.

### Primary sources

- Experimental data and reports
- Field studies and notes
- First-hand experiences
- Interviews
- Surveys and questionnaires
- Letters and diaries
- Artworks
- Music
- Films
- Literary texts
- Social media posts

### Secondary sources

- Academic books (e.g., textbooks, histories)
- Reviews
- Academic articles (e.g., journals, periodicals)
- Opinion pieces
- Political commentaries
- Dissertations

## Key terms

A **primary source** is any original, first-hand piece of data you or another researcher has collected, e.g., field notes, experimental data, surveys.

A **secondary source** is any data, evaluation, analysis or interpretation that someone else has created based on their analysis of selected primary sources.

## Note

Bear in mind that certain extended essays have a minimum expectation when it comes to primary and secondary sourcing, while others may disallow the use of primary source material specifically (for example, primary research in psychology is not permitted). In all extended essays, secondary source materials are a mandated requirement.

More detailed lists of types of sources are given on pages 44–48.

## What sources to include for each subject

In the table, a tick ✓ indicates that the subject requires the use of primary/secondary sources, while a cross ✗ indicates that it should not be included. A circle ○ indicates that it is dependent on the nature of the research question devised. In most cases, the nature of the question dictates the type of sources required, and so both primary and secondary sources may be required.

Subjects	Primary	Secondary	Notes
<b>Language A, language B, and classical languages</b>			
<b>Language A</b> <ul style="list-style-type: none"> <li>• A study of a single literary or language text</li> <li>• A comparative study of more than one literary or language text</li> <li>• A comparative study of a literary text and a language text</li> </ul>	✓	✓	<p>The analysis should largely be based on the primary sources (that is, the text(s) being written about) from which all supporting information can come.</p> <p>Secondary sources should also be used, provided they are treated critically rather than merely accepted as the definitive interpretation of a text or included in place of your analysis (i.e., the essay should not be simply a regurgitation of others' ideas).</p>
<b>Language B</b> <ul style="list-style-type: none"> <li>• Literary analysis</li> <li>• Language use and development</li> <li>• A study of the language's culture (and how it influences that language)</li> </ul>	✓	✓	<p>All language B essays should utilize a good range of primary and secondary sources. With literature and most language essays, the primary source will be the text(s) chosen as the main focus of the analysis. In the case of culture, there is an expectation that reference to both primary (usually in the form of a chosen cultural artefact) and secondary sources should be made.</p> <p>With language and culture-based essays it is generally advisable to avoid surveys and questionnaires (e.g., of classmates) as they do not often yield good data upon which to base an analysis.</p>
<b>Classical languages (Greek and Latin)</b>	✓	✓	<p>You should aim to reference both types of source material. The text(s) studied will act as the primary source, while articles, reviews or other publications will constitute the secondary source material.</p>
<b>Individuals and societies</b>			
<b>Business management</b>	○	✓	<p>Essays in business management can rest on secondary source material entirely. Where primary research is used, it must provide quantitative and qualitative analysis that is directly relevant to the question.</p>
<b>Digital society</b>	✓	✓	<p>Digital society essays require the use of a wide range of both primary and secondary sources. What's more, an attempt should be made to support (or contest) findings in secondary source material with primary source work (e.g., interviews and surveys). The selection of source material should also be briefly and critically assessed in the body of the essay.</p>



<p>→</p> <p><b>Economics</b></p> <ul style="list-style-type: none"> <li>• Research-based</li> <li>• Source-based</li> </ul>	<p>✓</p> <p>○</p>	<p>○</p> <p>✓</p>	<p>Source requirements for economics essays are highly dependent on the nature of the question. Questions that invite and are dependent upon primary research (e.g., interviews, surveys or questionnaires) are highly advisable, though not mandatory.</p> <p>Essays based purely on secondary source materials (e.g., economic data from the International Monetary Fund (IMF) and World Trade Organization (WTO)) are perfectly feasible provided the question has a sufficiently narrow scope. Essays that combine primary and secondary sources are also fine, provided both sets of sources are shown to be directly relevant to the question.</p>
<p><b>Geography</b></p>	<p>○</p>	<p>✓</p>	<p>Successful geography essays can be based solely on published secondary source material. However, a wide range of such sources would be required in this instance.</p> <p>Primary source work (e.g., fieldwork data and questionnaires), although not mandatory, is highly advisable as it tends to produce stronger essays in this subject and thus yield higher results.</p> <p>In both cases, a critical evaluation of the sources and approach followed is required.</p>
<p><b>Global politics</b></p>	<p>○</p>	<p>✓</p>	<p>Essays in global politics require you to situate your question within existing theories or arguments related to the subject. As such, references to secondary source materials (e.g., textbooks and books on ethics) are mandatory. The use of primary source material (e.g., interviews and surveys), although not mandatory, is highly advised as it tends to result in a stronger essay and thus the potential for higher marks.</p> <p>Primary sources (e.g., interviews and surveys) can be of use when the chosen topic is local in nature (for instance, an electoral process in a local community) but will still need to be grounded in established political theory (for instance, by showing an understanding of the democratic process).</p>
<p><b>History</b></p>	<p>○</p>	<p>✓</p>	<p>Essays in history should aim to use both primary and secondary sources, although the IB recognizes that this may not always be possible with certain topics and thus is not mandatory. However, if primary source material is readily available, extended essays in history are expected to make reference to them.</p> <p>A primary source in history is deemed to be any artefact from the time in question, while a secondary source is any text written on that time period but produced later. A critical analysis of the value and limitations of the sources used (both primary and secondary) by means of investigating their origin, purpose, content, value and limitations is also required (in the body of the essay rather than as a distinct section of the essay). Factual data and historians' views should be used to support your own argument without replacing it.</p>

→	Philosophy	✓	✓	Primary sources in philosophy include the works of the philosophers themselves (e.g., Michel Foucault's <i>The Order of Things</i> ) whereas secondary sources would include all other texts written about these works (including textbooks, articles, books and encyclopedias). Essays in philosophy should always begin with the primary sources while making use of secondary source material to further support a line of argument or analysis. Reliance on textbooks alone will produce poor philosophy essays and should be avoided.
	Psychology	✗	✓	Psychology extended essays are expected to be analytical investigations into an area of interest rather than primary research to test a hypothesis. <b>Under no circumstances</b> should you engage in your own experiments or case studies as this is deemed inappropriate for essays in psychology. Instead, you should reference secondary source material as a minimum expectation (such as journals and textbooks) while making reference to pre-existing research material (e.g., case studies and experiment-based data by recognized psychologists or institutions).
	Social and cultural anthropology	○	✓	There is an expectation that all essays in this subject are rooted in a good understanding of anthropological theories and/or concepts. As such, reference to works by accepted anthropologists is highly advised. Primary source material can be included but only as a supplement to secondary sources. In contrast to the internal assessment (IA), primary data must not be the core focus of the essay. A consideration of the value and limitations of the methodological approach followed to generate the data is also expected if primary source material is used.
	World religions	✓	✓	Essays in world religions work best when they evaluate the established approaches to religion as they appear in secondary sources (e.g., works about religion) against the data collected from primary sources (e.g., the sacred texts, interviews with religious figures or a community of believers). In both cases, sources should not automatically be treated as representative or authoritative.





Sciences				
Biology, chemistry, physics, and sports, exercise and health	a. Experiment-based essay	✓	✓	<p>a. The focus with experiment-based essays is the primary data produced as a result of the experiment(s) conducted by you. Biology essays based on primary data must use controlled, independent variables and a standardized methodology so as to permit valid conclusions to be formed.</p> <p>Secondary sources in the form of scientific publications should be used to support a line of argument or indicate where you have adapted your approach to produce different results.</p> <p>A consideration of the quality of the secondary source material should also be offered to identify limitations or weaknesses in its approach or method, for example.</p> <p><b>Note:</b> There are restrictions placed on the use of animals and humans when it comes to experiment-based essays. For more, please check the <i>IB Sciences experimentation guidelines</i> with your supervisor.</p> <p>b. Non-experiment-based (literature) essays should question the reliability of the secondary source material used and offer some critical insight into the strengths and limitations of the methodological approaches taken by the secondary sources.</p>
	b. Non-experiment-based essay	○	✓	
Computer science		○	✓	<p>Essays in computer science can be based on secondary source material entirely. A large number of such sources should be used where possible, with the condition that the most up-to-date material is found in every instance.</p> <p>Primary source material, in the form of program runs or statistical charts, can also be used, provided they are reliably constructed and relevant to the question.</p>
Design technology		✓	○	<p>Due to the practical nature of this subject, most essays will focus on the design, implementation, benefits and effectiveness of your chosen product(s). A common approach would be to include data in the form of statistical charts, diagrams or tables gathered from user surveys and/or interviews of the product in action. More commonly, the sources used will often include your data gathered from the trialling of a material, product or specific design, its experimentation for effectiveness, resilience or user-friendliness, for example, or the production of models. Primary experimentation, however, is not a mandatory requirement although it does tend to lead to significantly better essays in design technology.</p>

Mathematics			
<b>Mathematics</b> <b>a. Theoretical essays</b> <b>b. Practical essays</b>	<input type="radio"/> <input checked="" type="radio"/>	<input checked="" type="radio"/> <input type="radio"/>	<p>Essays in mathematics can rely solely on the analyses of the data produced by your own calculations or applications of the mathematical formulae associated with the differing mathematical disciplines.</p> <p>When it comes to practical essays (e.g., exploring the optimal free kick distance or position in soccer), it is highly advised that you use your own raw data as a primary source rather than pre-existing data as it's difficult to do much mathematical work of your own with pre-existing data sets.</p> <p>Secondary source material should be used for all theoretical essays but can also be used for practical essays if the focus of the question demands considerations of external proofs or approaches (e.g., the mention of combinatorial game theory or surreal numbers in an essay about the use of mathematics in a game of Go).</p>
Arts			
<b>Dance</b>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<p>Dance essays lean heavily towards primary source material (e.g., interviews with dance practitioners or your own dance experiences). Secondary source material (e.g., texts about dance) should also be used as evidential support of your own perspective or argument and to provide further depth to the overall discussion. Challenging the position of a secondary source is also encouraged.</p>
<b>Film</b>	<input checked="" type="radio"/>	<input type="radio"/>	<p>As with a language A essay, the primary focus of a film essay should be the primary source itself (that is, the film). Secondary sources can be used to support your line of argument but should not replace it. Secondary sources may also be challenged in the essay, rather than simply accepted as the definitive interpretation.</p>
<b>Music</b>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<p>Music essays must analyse the primary source first and foremost (e.g., performances and scores), however, secondary sources should also be used to provide support to the points raised in the body of your essay. Where secondary sources are used, they must support your line of argument and not act as a substitute for it. An awareness of the value and limitations of the source(s) used is also required.</p>
<b>Theatre</b>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<p>Theatre extended essays require the use of both primary sources (such as the works themselves, artists, performances) and secondary sources (such as articles, books, journals). You may also make use of your own primary data generated from interviews with theatre practitioners or visits to theatres and galleries, or even your own experiences of performances.</p> <p>Where secondary sources are used, they must be used to support your line of argument and not act as a substitute for it. An awareness of the value and limitations of the source(s) used is also required.</p>

<p>→</p> <p><b>Visual arts</b></p>	✓	✓	<p>Visual arts extended essays must analyse the primary source(s) first and foremost (such as art and artists); however, secondary sources should also be used to provide support to the points raised in the body of the essay.</p> <p>Where secondary sources are used, they must be used to support your line of argument and not act as a substitute for it. An awareness of the value and limitations of the source(s) used is also required.</p>
<b>Cross-disciplinary subjects</b>			
<p><b>Environmental systems and societies (ESS)</b></p> <ul style="list-style-type: none"> <li>• Experiment or fieldwork-based</li> <li>• Non-experiment or non-fieldwork-based</li> </ul>	<p>✓</p> <p>○</p>	<p>○</p> <p>✓</p>	<p>Data gathered from experiments or fieldwork can constitute the entire basis for a successful essay in ESS, provided that detailed descriptions of the procedures used are given so that the work can be repeated independently. Essays based solely on secondary source material are also feasible, provided that a wide range of sources are used and consideration for the reliability (or lack thereof) of said sources is made in the body of the essay.</p> <p>For primary sources, some indication of how the material was created or the experiments it rests upon must also be noted in the essay.</p>
<p><b>Literature and performance</b></p>	✓	✓	<p>Due to the cross-disciplinary nature of the subject, any extended essay in literature and performance will require a thorough understanding of the primary text(s) studied and the context in which they have been “transformed” from one medium (text) to another (performance). This means that although the primary focus is the text itself (as with language A essays), the key difference here is that a comprehensive understanding of the pre-existing historical and cultural context is required in order to better evaluate the “transformation” (text to performance) aspect. As such, secondary source material (e.g., literary critiques and critical evaluations) is required as part of any literature and performance essay. This can be supplemented with personal analyses of performances seen in galleries, cinemas, theatres and other performance spaces.</p>
<b>Interdisciplinary essays</b>			
<p><b>Interdisciplinary essays</b></p>	○	○	<p>Interdisciplinary essays are unique in that they require you to combine two subject methodologies (e.g., history and visual arts). As such, the type of sources referenced will depend on the two chosen subjects. However, it is almost always advisable to include both primary and secondary sources. Refer to the specific subject information listed above for additional insight.</p>

## Types of primary and secondary sources for each subject

Accepted primary and secondary sources differ slightly for each subject; however, the following table will give you some indication of these. Note that this list is not exhaustive.

Subject	Primary sources	Secondary sources
<b>Language A, language B and classical languages</b>		
<b>Language A</b>	<ul style="list-style-type: none"> <li>Novels (text or graphic), letters, anthologies, poems, interviews, plays, blogs, social media posts, film screenplays, advertisements</li> </ul>	<ul style="list-style-type: none"> <li>Any journals, articles, books, critiques, documentaries, websites, literary reviews, newspapers or literary magazines concerned with the chosen essay topic or its background</li> <li>Autobiographies and biographies may also prove useful in terms of context and occasional insight into textual meaning, although you should avoid limiting your analysis of the text to the specifics of an author's life</li> </ul>
<b>Language B</b>	<ul style="list-style-type: none"> <li>Novels, letters, poems, non-fiction, interviews, newspapers (language), websites (language), idiolects and dialects (language or culture), advertisements, TV series and films (culture)</li> </ul>	<ul style="list-style-type: none"> <li>Journals, articles, critiques, documentaries, websites, literary reviews, newspapers, literary magazines or any text focusing on language-specific analysis</li> </ul>
<b>Classical languages (Greek and Latin)</b>	<ul style="list-style-type: none"> <li>Classical Greek or Latin texts, such as epic poems, histories, speeches, political treatises, law codes and inscriptions</li> </ul>	<ul style="list-style-type: none"> <li>Any journals, articles, critiques, documentaries, websites, literary reviews, newspapers, literary magazines and similar about the classical Greek or Latin texts chosen for the essay</li> </ul>
<b>Individuals and societies</b>		
<b>Business management</b>	<ul style="list-style-type: none"> <li>Any data, graphs, charts, position maps, matrixes produced by you from conducting surveys, questionnaires, strengths, weaknesses, opportunities and threats (SWOT) analyses and any other acceptable quantitative or qualitative method as outlined by the business management syllabus</li> </ul>	<ul style="list-style-type: none"> <li>Books, textbooks, articles, journal publications and websites on business theory, management or practice</li> <li>Company reports, statistical bulletins or corporate analyses</li> </ul>
<b>Digital society</b>	<ul style="list-style-type: none"> <li>Any data gathered by you through the application of digital society theory, tools and techniques (e.g., testing of a particular IT system's effectiveness, surveys on a system's usefulness or application, questionnaires relating to a system's usage)</li> </ul>	<ul style="list-style-type: none"> <li>Any specialist books, textbooks, newspapers, magazines, journal articles and websites that reference the chosen IT system(s) or overall IT-related concepts and applications in real-world scenarios</li> <li>IT think tanks such as the Information Technology and Innovation Foundation (ITIF) and similar</li> </ul>





<p>→</p> <p><b>Economics</b></p>	<ul style="list-style-type: none"> <li>Any data, graphs, charts and similar produced by you from conducting surveys, questionnaires or interviews with experts in the field of economics (journalists, university professors, business leaders, politicians and other policymakers)</li> </ul>	<ul style="list-style-type: none"> <li>Books, textbooks, newspaper and magazine articles, journals, and governmental publications and websites on economic theory, research, trends or policy</li> <li>Research conducted by think tanks such as the Institute of Economic Affairs (IEA), Centre for Economic Policy Research (CEPR), RAND Corporation or similar</li> <li>Publications produced by international organizations such as the United Nations, World Bank, International Monetary Fund and Golf Cooperation Council</li> </ul>
<p><b>Geography</b></p>	<ul style="list-style-type: none"> <li>All data gathered from fieldwork investigations or studies (e.g., sampling, questionnaires, interviews, surveys and mapping)</li> </ul>	<ul style="list-style-type: none"> <li>Any books, textbooks, newspapers, magazines, journal articles and websites that reference geographical issues, approaches, research and methodologies</li> <li>Aerial and satellite images</li> <li>Digital landscape simulations and models</li> <li>Diagrams, charts, reports and other statistical data obtained from reputable sources (e.g., governmental agencies and independent environment organizations)</li> </ul>
<p><b>Global politics</b></p>	<ul style="list-style-type: none"> <li>Questionnaires, surveys and interviews with either experts in the topic under investigation (e.g., university professors and government agencies) and/or stakeholders related to the political issues being investigated (such as policymakers, members of the community or family members)</li> </ul>	<ul style="list-style-type: none"> <li>Any books, textbooks, newspapers, magazines, journal articles and websites that reference the chosen political issues, conceptual frameworks, research and approaches followed</li> <li>Written or oral records of major stakeholders or participants</li> </ul>
<p><b>History</b></p>	<ul style="list-style-type: none"> <li>Texts or artefacts created at the time in question, such as histories, letters, images, objects, speeches, charters, laws, inscriptions, diaries, buildings, newspapers, posters and photos</li> </ul>	<ul style="list-style-type: none"> <li>Texts concerning the time in question but created after it, such as histories, documentaries, websites, journals, history magazines and films</li> </ul>
<p><b>Philosophy</b></p>	<ul style="list-style-type: none"> <li>The original works of philosophers that outline their philosophical concepts or themes</li> </ul>	<ul style="list-style-type: none"> <li>Any philosophy-related compendiums, dictionaries, textbooks and encyclopedias</li> <li>Where non-philosophy sources are used (e.g., newspaper articles or literature on specific issues) they must be examined from a philosophical perspective only</li> </ul>

<b>Psychology</b>	<ul style="list-style-type: none"> <li>You should not conduct primary research at all</li> </ul>	<ul style="list-style-type: none"> <li>Books, journals, articles, reviews, documentaries, websites, textbooks, psychology magazines on theories, experiments, models, case studies, approaches, research or methodologies</li> </ul>
<b>Social and cultural anthropology</b>	<ul style="list-style-type: none"> <li>Observation, ethnographies, questionnaires and interviews (e.g., life histories)</li> </ul>	<ul style="list-style-type: none"> <li>Ethnographical and anthropological publications or studies will form the core source materials; considerations of the ethical issues that underpin these studies is also necessary</li> <li>Texts referencing social, cultural, political and historical contexts can be used for establishing wider contexts</li> <li>Anthropology research libraries and institutes (e.g., the British Museum's Anthropology Library and Research Centre and the Smithsonian's John Wesley Powell Library of Anthropology)</li> </ul>
<b>World religions</b>	<ul style="list-style-type: none"> <li>Observation of religious practices or spaces</li> <li>Surveys, questionnaires and interviews of religious leaders, practitioners or community members</li> </ul>	<ul style="list-style-type: none"> <li>Religious or sacred texts, images and artefacts</li> <li>Any specialist books, treatises, newspapers, magazines, journal articles and websites that reference the chosen religious topic or theme</li> <li>Written or oral records of major stakeholders or participants</li> </ul>
<b>Sciences</b>		
<b>Biology, chemistry and physics</b>	<ul style="list-style-type: none"> <li>Observations, fieldwork, experiments and all data generated from them</li> </ul>	<ul style="list-style-type: none"> <li>Journals, articles, reviews, documentaries, websites, textbooks, science magazines on theories, experiments, models, case studies, approaches, research or methodologies</li> <li>Data charts or graphs from science institutes or government centres</li> </ul>
<b>Computer science</b>	<ul style="list-style-type: none"> <li>Analyses of student-made source code, compiler or other computer program can form the basis of a computer science extended essay</li> <li>Interviews with computer science experts (interviews of a small number of your peers would not be sufficient and should be avoided)</li> </ul>	<ul style="list-style-type: none"> <li>Any specialist books, textbooks, newspapers, magazines, journal articles and websites that reference the chosen computing system, program, code, technology or hardware design, for example</li> </ul>

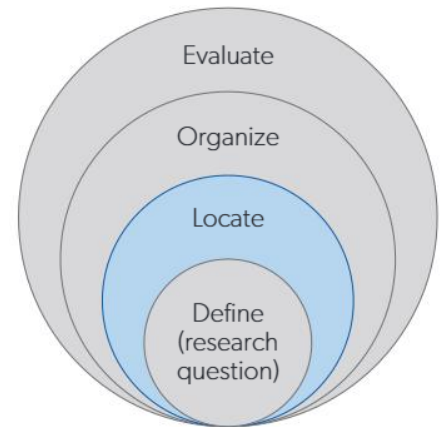
<p>→ <b>Design technology</b></p>	<ul style="list-style-type: none"> <li>• Surveys, questionnaires, user observations and structured interviews with users and experts</li> <li>• Any data, in the form of graphs, tables, charts and so on, that emerges out of practical experiments conducted by you (the user) could also feature, although this is not mandatory. These experiments could take the form of performance and effectiveness tests, prototyping solutions, situation modelling and design trialling</li> </ul>	<ul style="list-style-type: none"> <li>• Books, textbooks, newspaper and magazine articles, journal publications and websites on design theory, principles, trends, applications and approaches</li> <li>• The usage of websites and textbooks alone is not sufficient for the purposes of an extended essay in design technology</li> </ul>
<p><b>Sports, exercise and health science</b></p>	<ul style="list-style-type: none"> <li>• Observations, fieldwork, experiments, surveys or questionnaires, and all data generated from them</li> </ul>	<ul style="list-style-type: none"> <li>• Sports, exercise and health-related books, journals, articles, reviews, documentaries, websites, textbooks, magazines on theories, experiments, models, case studies, approaches, research or methodologies in this area</li> <li>• Data charts or graphs from sports science institutes or government centres</li> </ul>
<p><b>Mathematics</b></p>		
<p><b>Mathematics</b></p>	<ul style="list-style-type: none"> <li>• Axioms, proofs, equations, theorems, data, problems, conundrums, statistics</li> </ul>	<ul style="list-style-type: none"> <li>• Books, journal articles, mathematics magazines, essays, specialist websites and any publication that incorporates mathematical techniques</li> </ul>
<p><b>Arts</b></p>		
<p><b>Dance</b></p>	<ul style="list-style-type: none"> <li>• Dance productions (live or recorded), photos of dance performances, articles by dance practitioners or interviews with them, dance notations, your participation in performances or workshops related to your topic</li> </ul>	<ul style="list-style-type: none"> <li>• Any textbooks, journals, articles, critiques, documentaries, websites, dance reviews, dance magazines, promotional material or DVDs concerned with the chosen essay topic or its background</li> </ul>
<p><b>Film</b></p>	<ul style="list-style-type: none"> <li>• The film(s) or TV show(s) would act as the main primary source material, which would also include any scripts, screenplays, storyboards and scores</li> <li>• Interviews with people involved in the film's production (whether via email or face to face) could also be used</li> </ul>	<ul style="list-style-type: none"> <li>• Any textbooks, journals, articles, critiques, documentaries, websites, film reviews, film magazines, promotional material or DVD special features or extras concerned with the chosen essay topic or its background</li> </ul>
<p><b>Music</b></p>	<ul style="list-style-type: none"> <li>• Music recordings, scores, performances, concerts, observations, workshops, interviews with performers, questionnaires or surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Any textbooks, journals, articles, critiques, documentaries, websites, music reviews, music magazines and evaluations concerned with the chosen essay topic or its background</li> </ul>

<p>→</p> <p><b>Theatre</b></p>	<ul style="list-style-type: none"> <li>• The play itself (script or recorded performance)</li> <li>• Stage sketches, drawings, pictures, plans or photographs</li> <li>• Reviews of major productions</li> <li>• Interviews with specialists such as playwrights, directors, actors, set designers, producers</li> <li>• Drama workshops</li> </ul>	<ul style="list-style-type: none"> <li>• Any textbooks, journals, articles, critiques, documentaries, websites, theatrical reviews, theatre magazines and evaluations concerned with the chosen essay topic or its background</li> </ul>
<p><b>Visual arts</b></p>	<ul style="list-style-type: none"> <li>• The artwork and/or artist will constitute the main primary source material for visual arts extended essays, including exhibitions and interviews with artists (via correspondence or face to face)</li> </ul>	<ul style="list-style-type: none"> <li>• Any textbooks, journals, articles, critiques, documentaries, websites, art reviews, art magazines and evaluations concerned with the chosen essay topic or its background</li> </ul>
<p><b>Cross-disciplinary subjects</b></p>		
<p><b>Environmental systems and societies (ESS)</b></p>	<ul style="list-style-type: none"> <li>• Observations, fieldwork, experiments, surveys or interviews with experts in the field of environmental studies</li> </ul>	<ul style="list-style-type: none"> <li>• Journals, articles, reviews, documentaries, websites, textbooks, magazines on theories, experiments, models, case studies, approaches, research or methodologies related to the environment, geography and biology</li> <li>• Data charts or graphs from science institutes, government centres or international agencies (such as the Centre for Science and Environment, European Environment Agency and United Nations Environment Programme)</li> </ul>
<p><b>Literature and performance</b></p>	<ul style="list-style-type: none"> <li>• The main primary sources will be the literary texts chosen and their associated adaptation into a performance (e.g., dance, play, film)</li> <li>• For further sources, see the sections on language A, theatre, music, dance or other relevant subjects that may be useful for your intended literature and performance extended essay</li> </ul>	<ul style="list-style-type: none"> <li>• Any journal articles, critiques, documentaries, websites, literary reviews, newspapers or literary magazines concerned with the chosen essay topic or its background</li> <li>• Autobiographies and biographies may also prove useful in terms of context and occasional insight into textual meaning, although you should avoid limiting your analysis of the text to the specifics of an author's life</li> </ul>
<p><b>Interdisciplinary essays</b></p>		
<p><b>Interdisciplinary essays</b></p>	<ul style="list-style-type: none"> <li>• The list of acceptable primary sources will depend on the chosen subjects. See the relevant subject area above for a list of sources.</li> </ul>	<ul style="list-style-type: none"> <li>• As for primary sources, the list of acceptable secondary sources will depend on the chosen subjects. See the relevant subject area above for a list of sources.</li> </ul>



## Locating relevant sources

Most students are drawn to one of the main general search engines on the internet (for example, Google™ or Yahoo™) or a general website such as Wikipedia when it comes to locating relevant sources. However, these do not always produce results that would be suitable for an academic research paper such as the extended essay. Below is a list of alternative suggestions for a variety of subject areas.



### 1. Libraries

- The **school library** should be the first stop when it comes to locating relevant source material. Too often, students overlook their own facilities in preference of an electronic search engine, much to the detriment of their final work.
- In addition to school libraries, many schools are within close proximity of public **municipal libraries** that often house significantly larger collections of materials.
- **State or national libraries** are also a great place to visit if they can be readily accessed.
- **University libraries** may also be available to you, though borrowing restrictions may apply to non-university students.
- **Virtual libraries:** Many libraries of institutions (such as the Getty Research Institute) now make their resources available in a virtual (online) environment that is often freely accessible or requires normal membership as is the case with physical libraries.

Many libraries have sharing agreements with larger libraries, which means that resources can be shipped between them upon request. They also have paid subscriptions to online databases which members can freely access.

Always bear in mind that librarians are best placed to support you with regard to the location of appropriate academic materials, be they print or electronic in nature.

### 2. Electronic databases

There are many electronic databases (many of them free or requiring a small subscription fee) that you can make use of. These usually store hundreds or thousands of academic-grade journals and associated publications. Below is a list of some of the more popular ones (check whether your library already has a subscription to these):

- **International System for Agricultural Science and Technology (AGRIS)** (<https://agris.fao.org>): A free database containing articles in multiple languages on issues pertaining to the environment, geography and natural sciences.
- **The arXiv** (<https://arxiv.org>): A free online database with publications relating to physics, computer sciences, mathematics, finance and biology.
- **CQ Researcher** (<http://library.cqpress.com/cqresearcher>): A subscription-based database of contemporary social and political issues written by professional journalists.
- **EconBiz** ([www.econbiz.de](http://www.econbiz.de)): A free online database with full-text access to a multitude of economics-related publications.
- **EBSCOHost** ([www.ebscohost.com](http://www.ebscohost.com)): A vast subscription-based database of scholarly publications, magazines and articles on most subjects. (Includes many of these as full texts.)

- **ERIC Institute of Education Sciences** (<https://eric.ed.gov>): Thousands of publications relevant to education, human and natural sciences, the arts and many more, often with free access to full texts or links to host websites.
- **Google Scholar** (<https://scholar.google.com>): A search engine with a specific focus on scholarly articles, often accessible as full-text versions.
- **JSTOR** ([www.jstor.org](http://www.jstor.org)): A large subscription-based database of scholarly publications, magazines and articles on most subjects. (Includes many of these as full texts.)
- **JURN** ([www.jurn.org](http://www.jurn.org)): A search engine with a specific focus on free scholarly articles, accessible as full-text versions.
- **United States National Archives** ([www.archives.gov](http://www.archives.gov)): A huge database of primary and secondary sources mainly on United States' history. Includes links to other external databases such as Fold3.
- **National Bureau of Economic Research** ([www.nber.org](http://www.nber.org)): An online database with full-text access to a multitude of economics-related publications.
- **POPLINE** ([www.popline.org](http://www.popline.org)): An online database with links to articles (often free) relating to health and associated factors such as culture and society).
- **PubMed Central** ([www.ncbi.nlm.nih.gov/pmc](http://www.ncbi.nlm.nih.gov/pmc)): Database with millions of full-text articles on a myriad of topics in the natural sciences.
- **Science Direct** ([www.sciencedirect.com](http://www.sciencedirect.com)): A subscription-based database of publications relevant to mathematics, the human and natural sciences.

### 3. Online encyclopedias

You might be tempted to first turn to an online encyclopedia, such as Wikipedia, when it comes to research. Due to the lack of peer review on such websites and their open editorial nature, these do not often work well as sources for academic research papers. Essays that rely solely, or heavily, on online summative encyclopedias will not score well. However, these types of websites are useful for:

- a. providing an initial overview and summary
- b. providing links to a range of relevant primary and secondary sources in their bibliography sections for further investigation.

### 4. Books

When it comes to books, it does not matter if you have a digital or physical copy for use; more important is the quality of the book itself. For example, a history book written by an amateur historian (such as an ex-serviceman) or hobbyist may not be as scholarly as one written by a recognized professor of history. Likewise, if the history is written by an economist or anthropologist, the approach may not be ideal for your essay. It is more important to evaluate your choice of books against your specific focus, rather than assume it is of use simply because it is a printed book.

#### Note

Far too often students assume printed works are all of the same quality, which leads to missed marks when it comes to Criterion A: Framework of the essay and Criterion D: Discussion and evaluation.

For strategies on how to maximize your evaluation of chosen sources, see Chapter 4, page 65.

## 5. Textbooks

Similar to online encyclopedias, no extended essay should rely exclusively (or heavily) on school textbooks. They are great for initial ideas and overviews of content; however, you should seek more scholarly materials to supplement them.

## 6. Journals

You should always seek out information from acknowledged journals in your chosen subject. Online databases such as those listed above are excellent for this; however, physical copies may also be present in many local or school libraries. Alternatively, journals can be individually purchased directly from publishers.

Major universities usually have publishing houses affiliated with them that publish academic journals covering a range of subjects (such as Oxford University Press, Cambridge University Press, Harvard University Press and University of Queensland Press). Their websites will list available publications for purchase.

Many school or local libraries may already have subscriptions to online journals (or be open to purchasing a licence), so do check before considering purchasing one yourself.

## 7. Magazines

There are numerous specialized magazines that cover a wide variety of topics across all subject areas. A school, local or regional library is always a great source of these types of publications. Below is a brief list of some examples:

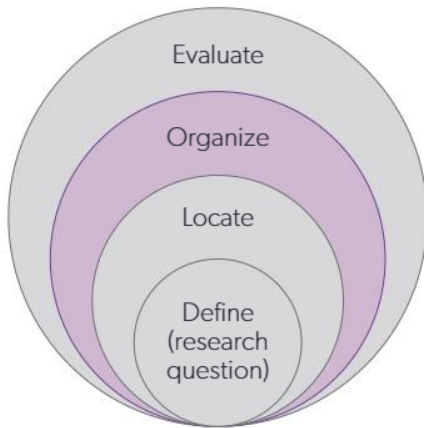
- *New Scientist*
- *History Today*
- *BBC History Magazine*
- *BBC Music*
- *Philosophy Now*
- *IB Review*
- *Biological Sciences*
- *Chemistry Review*
- *Physics Review*
- *Psychology Review*
- *Economic Review*
- *Business Review*
- *Geography Review*
- *Frieze Magazine (Art and Culture)*
- *Creative Review*
- *Artforum*
- *Chez Nous Magazine (French)*
- *JDE—Le Journal des enfants (French)*
- *The Economist*
- *National Geographic*
- *Asian Theatre Journal*

## 8. Audiovisual

Videos or sound recordings such as documentaries, interviews, sound clips, demonstrations and 3D models are also a great source of information that can feature in an extended essay.

It is important to bear in mind that these must be audited for their reliability just as you would a website or book. Aim to source material from credible and acknowledged sources rather than using anything available on YouTube™ or similar channels.

## Organizing source material



Once you have gathered all your resources together, the next step (and an important one!) is to organize them so that you'll have an easier time referencing material when writing your essay.

Reading a pile of books, magazines and journals usually feels like a large part of the research work and once this is done, there is a tendency to simply jump straight into the writing of the essay. However, this is not a good approach. No matter how good your memory is, when the time comes to write the essay, details and specific information will be lost or conflated with other bits of information simply because of the sheer number of sources used.

### Condensing numerous works to a single essay

As the extended essay is written over an extended period of time, you can take advantage of this using organized note-taking. Taking notes in an organized manner means that you will have a quick reference point when writing your essay.

Below are examples of ways you could structure your reading and notes to maximize your time later on. Rather than spending time rereading your sources, organizing your notes under these three headings will allow you to instead maximize the grades awarded for critical thinking and engagement.

Source	Notes	Topic
<ul style="list-style-type: none"> <li>Source type (such as book, website and journal)</li> <li>Use Microsoft Word's automatic referencing feature or use an approved style (there are free online bibliography creation tools you could also use)</li> </ul>	<ul style="list-style-type: none"> <li>Summary of key points, bullet points of themes, ideas, research and so on</li> <li>Include quotations, page numbers, new references/paths of investigation and so on</li> </ul>	<ul style="list-style-type: none"> <li>What information have you extracted from the source that relates to your topic/question?</li> <li>Highlight possible paragraph topic sentences/thesis statements for inclusion in the essay proper</li> </ul>

Here is an example of a completed grid:

Research question: To what extent could Pope Urban II's foreign policy in the 11th century (1095 CE) be deemed an attempt at reconciliation between Western Europe and the Eastern Roman Empire rather than an attempt to increase papal power in Europe?		
Source	Notes	Topic
Book: Somerville, R. (2011). <i>Pope Urban II's Council of Piacenza (March 1–7, 1095)</i> . Oxford: Oxford University Press.	Bernold of Constance confirms the receipt of emissaries from the Byzantine Emperor Alexius I while Pope Urban was in Piacenza (pp. 15–16).  The emissaries pleaded with Pope Urban to provide support.  Pope was attempting to support Alexius to gain influence in the Byzantine Empire.	<ul style="list-style-type: none"> <li>– Political: showed leadership and vision</li> <li>– Religious: support for co-religionist emperor in East</li> <li>– Religious: support for co-religionist emperor in East</li> </ul>



<p>→ Book: Norwich, J. J. (2011). <i>The Popes: A History</i>. London: Chatto &amp; Windus</p>	<p>Suggested that Urban was aiming to unite the warring barons and princes of Europe under his banner by appealing to their sense of martial valour and the prospect of spoils from conquest.</p>	<p>– <b>Political: increase papal power</b></p>
<p>The first column includes all the relevant bibliographical details. These can be lifted straight into your essay.</p>	<p>The second column includes:</p> <ul style="list-style-type: none"> <li>• quotations (and page numbers)</li> <li>• relevant details</li> <li>• mini analyses</li> <li>• quick facts.</li> </ul> <p>This is the place to store all of your key notes or evidence from the source material you have read. It will make it much easier to locate useful quotations or facts if you organize your reading and note-taking in this fashion.</p> <p>All of the information here can again be embedded directly into your essay, as needed.</p>	<p>The third column includes:</p> <ul style="list-style-type: none"> <li>• headings</li> <li>• possible chapter titles</li> <li>• factors.</li> </ul> <p>This is very useful for structuring possible chapters in the extended essay or developing key theses in the main body of the essay. As you read, you will invariably come across key ideas, themes or factors that you can use to respond to your essay's title. Colour-coding (or highlighting) the headings is useful for when you want to find specific notes rather than having to read through all of them again. In the above examples, all political factors are highlighted in blue, while all religious factors appear in red.</p>

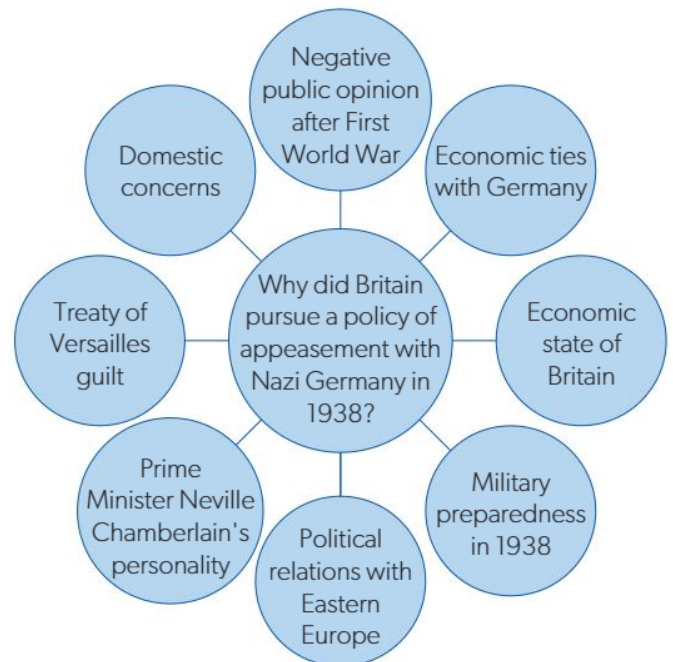
## Organizing chapters or paragraphs

Before beginning to write the essay it may also help to map out what key factors you feel are most relevant to your question. Three approaches are suggested to help plan and organize your writing: mind maps, progression charts and branches.

### Mind maps

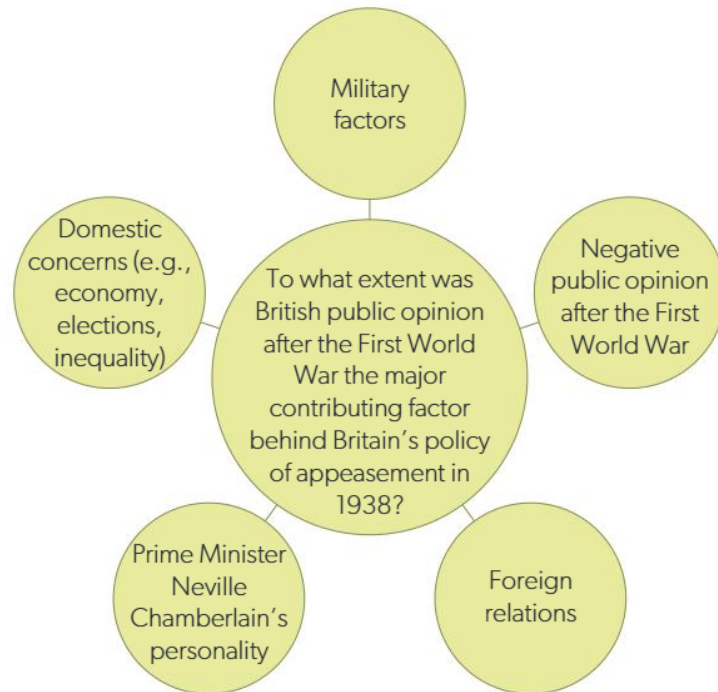
Mind maps are great for jotting down all the associated factors linked to a topic. Do this in two stages:

1. Write down all the factors you can think of that relate to your question as shown in the mind map on the right. These should emerge out of your reading.



2. Select the most pertinent factors for your specific essay. Sometimes, factors can be conflated into larger headings, which is always good practice. Remember, you do not have to include everything in order to successfully complete an extended essay. Sometimes removing factors from your list will help produce a sharper research question.

For example:



## Tip

Having mind maps or progression charts like these as part of your Researcher's Reflection Space will come in handy when trying to demonstrate reflective engagement (Criterion E) with your chosen research topic.

## Progression charts

With progression charts, you outline your key theses (or factors/points) that you believe fully respond to your research question. This allows you to visually plan how to write the essay and organize it into relevant chapters or sections.

### Thesis statement 1

Britain chose appeasement in 1938 due to the public outcry over the horrors of the First World War.

**Possible chapter heading: Public opinion**

### Thesis statement 2

Britain chose appeasement due to concerns that its military forces were not adequately prepared for another conflict.

**Possible chapter heading: Military preparedness**

### Thesis statement 3

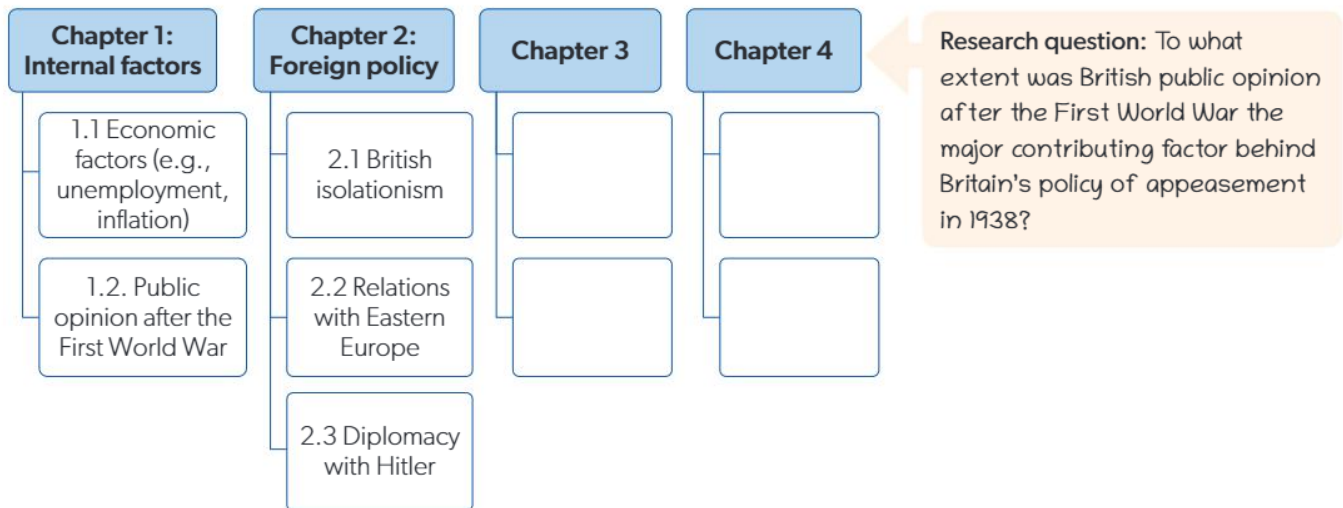
Britain chose appeasement due to ongoing socio-economic problems.

**Possible chapter heading: Socio-economic problems**

## Branches

Another way of organizing your chapters or paragraphs is by creating branches of associated factors or themes linked to a central area or topic. In the example below, for instance, the first main chapter will focus on why Britain chose appeasement. This will be done by exploring the role played by internal factors such as the problems facing the British economy and negative public opinion following the First World War.

The point here is that you can keep extending a branch to cover all of the relevant factors while also considering other lines of inquiry in parallel.

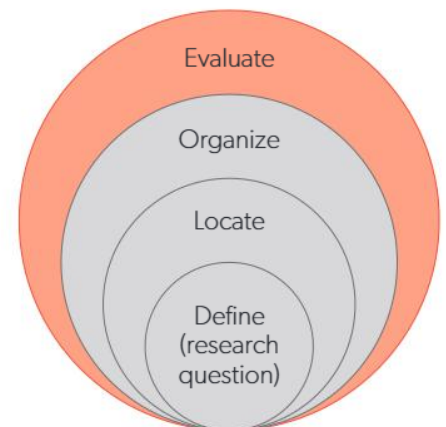


## Evaluation

### Value and limitations

It is vital, in all instances, that a consideration of the value and limitations of the selected research is offered. This will, more than anything, demonstrate a balanced and measured approach to data that is a requisite feature of all good academic writing.

On the next page is a list of statements that can be applied to a multitude of sources (both primary and secondary) when it comes to evaluating their value and limitations (or strengths and weaknesses). Do note, however, that some items listed as of value may also be limitations and vice versa. This is ultimately determined by the content or approach in question. For example, a questionnaire that relied on closed questions may not have produced the most reliable data when trying to determine motivations behind things like behaviour or justifications for action, but could be seen as valuable in that it offered precise figures on people's reactions to specified stimuli.



### Tip

Always consider the value and limitations of your chosen research method. Comment on this in the body of your essay rather than as a separate section or chapter.

## Value (strengths)

### What makes a resource valuable (or useful)?

- Its degree of objectivity (how factual it is in structure or approach)
- Provides insight into thoughts or behaviours
- Reveals weaknesses (e.g., of a method, approach or historical figure)
- Provides accurate statistics or figures
- Relies on a host of other sources
- Contains quotations from key figures
- Written during the period in question (potentially an eye-witness account)
- First-hand account of a party official or politician who had access to relevant information
- Was not written under a censorship regime
- Covers a wide period, placing events in a wider context
- Offers insight into personal views or opinions
- Suggests motives for public actions and opinions
- Indicates effects of an event or era on an individual
- May indicate how the author (in the case of memoirs) wishes to be seen by the public
- May offer an expert's view
- May offer insight into emotional responses
- May suggest correlations between indicators (e.g., unemployment and voting patterns)
- Can give a sense of a scene or event (images)
- Adheres to agreed methodological standards
- Considers variables or anomalies
- Was peer reviewed or validated by multiple (recognized) external agents
- Is free of bias
- Produced a wide array of qualitative statements
- Contained closed or open questions (depends on what is being investigated)
- Could be applied to a multitude of cultures (i.e., is not ethnocentric)
- Results in the source were standardized
- Results were gathered in the real world and thus carry ecological validity
- Methods used to produce results in the sources are not time-dependent (i.e., not only applicable to current time frame)

## Limitations (weaknesses)

### What problems or weaknesses does the source have?

- Contains bias (important to identify the nature of the bias and comment on its implications)
- Purpose of source is to sway opinion
- Its degree of subjectivity or one-sided perspective
- Contains hyperbole (exaggeration)
- Not written in the time in question (how many years removed is important as there could be issues with social translation, for example)
- Not written in the place where events took place, so access to information could be limited
- Lack of peer review or external moderation
- Proximity of author to figure in question (e.g., one may be purposely misleading about their spouse)
- Political interference may mean author was not willing to express true sentiments
- Non-specialist (e.g., an economist writing about politics)
- Intention: was it created for a specific audience (e.g., humour or summary)?
- Is a hagiographical (saintly) account of a key figure
- Could be a dissenting voice (thus offering an alternative interpretation)
- Cannot see beyond the lens or perspective intended by image maker (images)
- May wish to highlight strengths of one's actions
- Offers only a partial understanding of topic
- Approach followed may be limited in scope
- Based on leading questions
- Omitted variables or anomalies
- Produced a wide array of qualitative statements
- Contained closed or open questions (depends on what is being investigated)
- Is ethnocentric and thus cannot be used to generalize across cultures
- Results in the source were lacking in sufficient standardization
- Results were restricted to a laboratory and thus lack ecological validity
- Results in sources may not be applicable to the current time frame (i.e., they're time-dependent)



For example, if you chose to conduct a survey to ascertain whether student learning was enhanced by the use of a specific learning app, you should consider mentioning any limitations in your evaluation in a way such as this:

The survey results clearly indicate that student learning has indeed benefited from the use of App A; however, it is acknowledged that the survey's pre-coded and closed-question structure did not fully allow for qualitative statements to emerge that could be used to ascertain the specific degree to which learning was improved.

The highlighted section showcases this student's understanding of the issues associated with the chosen research approach, while still enabling use of the data or findings for the purposes of their analysis.

## Evaluating methodology

When evaluating your chosen methodology, consider including a section in your essay based upon your answers to the following questions:

<p><b>a. How were your results achieved?</b></p>	<p>Explain how your data were collected or generated. This often includes a discussion of why you chose a particular methodology or list of secondary sources.</p>
<p><i>Example (digital society):</i> Though the survey of my peers noted the preference for App A over its competitor, there is an acknowledgement that the sample may not have been large enough to more firmly ascertain if this preference is indeed widespread among smartphone users.</p>	
<p><b>b. How was your data analysed?</b></p>	<p>Offer an explanation of any methodological problems and their solutions. You could also consider any effect that these problems may have had on your final results.</p>
<p><i>Example (psychology):</i> The use of internet-based experimentation poses questions relating to validity, as test conditions may not always meet the standards of the more traditional, controlled laboratory-based experiments. However, this is compensated for by the study's strict operational guidelines and use of a large and diverse sample size which allows for the analysis of the research question from within specific demographic subsamples. This ensures that conclusions that are found to hold true for one demographic group also hold true in others.</p>	
<p><b>c. How reliable (or valid) was your chosen method or source material?</b></p>	<p>You should discuss the validity and reliability of the method used to generate your data as well as what steps have been taken to reduce any bias (or accommodate for it in secondary sources).</p>
<p><i>Example (history):</i> Although the account of the ancient historian Herodotus provides us with seemingly exact figures with regards troop deployment, it must be acknowledged that he, like other contemporaries, was prone to exaggeration and hyperbole. Thus, his figures must be taken with a degree of scepticism and a lower number is more likely to be accurate.</p>	
<p><b>d. Was there another approach that could (or needed to) have been followed?</b></p>	<p>You could acknowledge the limitations or issues with your chosen method by acknowledging the need or existence of an alternative approach that would yield a different conclusion.</p>
<p><i>Example (business management):</i> The paper acknowledges that this evaluation is limited by its reliance on gross profit margin analysis. Although this provides insight into Smartphone A's profitability after its introduction into the company's lineup of products, it does not yield a big-picture overview of company growth (and profitability), as would be possible if a net profit margin analysis had been followed.</p>	





**4**

**Research**



In order to successfully respond to an extended essay's research question, some form of research must be carried out. Research falls into two types:

- a. **Primary research** is any data produced by you, the student. This can take the form of:
  - surveys
  - questionnaires
  - interviews
  - experiments
  - designs (and their testing)
  - models (and their testing)
  - measurements
  - field studies.
- b. **Secondary research** is any analysis of pre-existing data conducted by you. This can take the form of:
  - a literature review of secondary source material
  - a compilation of data from various pieces of secondary source material
  - a close reading of relevant texts (e.g., an earnings report, charts, fieldwork studies).

Depending on the subject chosen, one form of research may be better suited than another (see Chapter 3, page 56); however, the key thing to bear in mind is that **some form** of research needs to be conducted. Even in extended essay subjects that have traditionally rested largely on personalized interpretations (for example, language A essays), there is now a requirement that you engage in at least a literature review of sources pertaining to your topic. This will help you to situate your own ideas within a wider body of discourse or debate.

The extended essay criteria make references to such things as the use of "suitable" research methods (Criterion A), "relevant research materials" (Criterion B) and the writing needs to demonstrate a "balanced discussion of the significance of the findings [which are] fully supported by appropriate evidence" (Criterion D). As such, it is imperative that you include a form of research (or methodological approach to your question) and subsequently make clear how it was used in developing your argument.

## Research overview

Meaningful research usually follows a staged process. You should generally begin with a research question (or hypothesis), move on to a review of existing (and relevant) knowledge on the chosen topic, decide upon a suitable method (or approach) with which to conduct your investigation, then analyse the results or information gathered and finally, arrive at a conclusion that (hopefully) addresses your initial question. The following sections will offer specific support for each of these research stages.

## The research question

To successfully conduct research, you must first decide on a question (or series of sub-questions). This will give your research the focus it requires. General reading around a topic does not yield as good a result as knowing exactly what it is you are trying to ascertain in the first place.

### Tip

No extended essay will score highly if it is simply based on opinion. The same applies if no acknowledged, subject-specific form of research is present.

For help with how to best meet the criteria for showing how you have used your research to develop your argument, see Chapter 7, page 134.



For additional support on structuring and organizing your work, see Chapter 3, page 52.

## Key terms

Data can be said to have **validity** if it provides an accurate picture of the reality it is referring to.

**Reliability** is the degree to which the results of a given study can be repeated.

For more support with designing research questions, see Chapter 2, page 21.

## Primary research

Alongside primary research, this section also sheds some light on the core concepts of **validity**, **reliability**, value and limitations. When engaged in research, you should be aware of these concepts.

### Key issues and concepts in research

#### Validity

To obtain valid data, often you would seek either a total sample size or a random selection of a broad enough cross-section of that group.

For example, if you are trying to determine how useful first-year IB students find the theory of knowledge classes for their wider IB studies, you could:

A: Survey the entire DP1 group.

B: Place the names of all students in a hat and select a representative sample from it (say 50 for a group of 200 students).

C: Allow a computer program to generate a random list of 50 names that you could then survey.

All of the examples above would yield “valid” data pertaining to your research focus.

#### Why?

- Option A would be fully representative and provide the complete view in this case; however, this approach may not work in situations where the group in question is in the thousands or millions, or where time is not available to survey everyone.
- Options B and C also provide a wide enough sample size from a random selection (thus eliminating any bias that would emerge if the sample included, say, just one class who may have had bad experiences with theory of knowledge classes).

However, research may not always accurately reflect the reality of the group being studied. For example, participants may not always respond truthfully to an interviewer’s questions for various reasons (they feel embarrassed or shy, or they want to project a particular image). In situations such as these, it is important to be aware that your approach may not always yield the most valid results. Where applicable, this should be acknowledged in the body of your essay (or in the conclusion at the very least).

#### Reliability

If you use the same method as a previous researcher, and get similarly consistent results, then the method you’ve used is considered “reliable”. This may often mean repeating the exact same questionnaire used by another researcher with all members of the chosen sample or relying on a method that many other experts in the field employ for similar investigations.



Design technology—to determine the ease of use of a new smartphone design for left-handed people, I would:

A: Use a questionnaire similar (or identical) to one employed by other researchers on all users selected for my sample.

Environmental systems and societies—to determine the evaporation rate of water in a nearby lake, I would:

B: Employ the equilibrium temperature method to measure the rate of water loss.

Both of the above would produce “reliable” data.

### Why?

Option A is reliable because the questions asked were exactly the same for all members of the sample and in line with other studies done on this topic. This would allow for comparisons and considerations of any variables between the two (or more) surveys.

Option B is reliable because it employed an industry-standard method that can be accurately and repeatedly measured.

### Value and limitations

In all extended essays, it is vital that a consideration of the value and limitations of the selected research is offered. This, more than anything, demonstrates a balanced and measured approach to data that is a requisite feature of all good academic writing.

### Quantitative vs qualitative

There are two types of data that are usually created as a result of primary research. **Quantitative data** can be measured or represented in number form, whereas **qualitative data** is usually recorded in the form of words, and often describes people's feelings about a particular subject or event, their emotional states, and/or their opinions. For example, quantitative data on user preferences with regard to smartphone apps, or distances achieved from use of varying parabolic curves can be represented in forms such as percentages, tables or bar charts. Examples of qualitative data may be what people think about a particular work of art or a recent governmental policy. Each has their advantages and disadvantages (e.g., quantitative data produces more easily measurable results while qualitative data produces richer and more nuanced responses).

## Methodology

### Questionnaires

A questionnaire is a means of collecting information through a list of preset questions. It is a useful tool for conducting a social survey because it can be used to gather information from a large number of people. A questionnaire can be a series of questions printed on a sheet of paper or completed online using one of the many online survey-making tools (for example, SurveyMonkey™ or Google Forms™). Questionnaires can be closed or open-ended.

For more on the evaluation of sources with regard to their value and limitations, see Chapter 3, pages 55–57.

### Key terms

**Quantitative data** is information that can be measured or represented in number form.

**Qualitative data** usually takes the form of descriptions or narratives.

### Tip

Always test your questionnaires with a small “pilot” group to see if your questions make sense to others. This will allow you to correct any mistakes and to ascertain if you need to modify or include any further questions. It may also be useful to run them by your supervisor or a teacher for feedback.

### Closed questionnaires

In a closed questionnaire, the interviewee is asked a series of preset questions with a limited (or restricted) number of multiple-choice answers. For example:

Question 1: How many hours do you spend on Instagram™ per day?

- a. 0–1
- b. 2–3
- c. 4–6
- d. 7–9
- e. 10–12
- f. 13+

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Produces easily quantifiable (measurable) results</li> <li>• Researcher controls the questions</li> <li>• Produces reliable data that can be reproduced by others</li> <li>• Quick-response style means that the sample can be quite large</li> </ul>	<ul style="list-style-type: none"> <li>• Limits possible choice of answers (no space for qualitative responses)</li> <li>• May affect validity of research as it forces responses in a particular (preset) direction</li> <li>• Closed questions cannot account for sociocultural variances</li> <li>• Researcher bias is increased due to limited (preset) responses</li> <li>• Responses may not be truthful</li> </ul>

### Open-ended questionnaires

In an open-ended questionnaire the interviewee is asked a series of preset questions for which they are able to give their own answers. For example:

Question 1: What is your opinion of Facebook™ as a connectivity platform?

Well, I personally feel it is lacking ...

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Results tend to be more valid as respondents are able to more accurately comment on questions using their own words</li> <li>• Responses tend to provide more detail and are thus qualitatively superior to closed questionnaires</li> <li>• Responses not considered by the researcher may appear, which might shed new light on the investigation being conducted</li> <li>• Researcher bias is reduced due to openness of answers</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to quantify these results by means of statistics or graphs as they are so varied</li> <li>• May not be as reliable as closed questionnaires due to the wide range of possible responses</li> <li>• Quality and consistency of responses may not be high as respondents either ignore questions or provide answers that are difficult to interpret</li> <li>• Repetition of process may not be possible as it would likely yield differing results, thus raising questions of reliability (or certainty) of data again</li> <li>• Responses may not be truthful</li> </ul>

## Interviews

Interviews are often a useful way to generate research material. An interviewer must have pre-prepared a series of questions to ask, however, the interviewer can ask follow-up questions that arise from responses given. Respondents dictate their own answers to questions posed.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Clarification can be sought in terms of responses given</li> <li>• Additional, follow-up questions may arise based on responses, thus providing greater insight</li> <li>• Questions can be better explained to the respondent, if required</li> <li>• Length of response could provide additional, qualitatively rich, data</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of confidentiality may eschew responses (interviewee may not be totally honest or may avoid giving a direct response)</li> <li>• Emotions may distort quality (and truthfulness) of response</li> <li>• Difficult to quantify results as they may be quite varied even if closed questions are used</li> <li>• Respondent could potentially be primed by interviewer's questioning</li> <li>• Time factor involved may be significant</li> </ul>

## Experiments

Experiments are a particularly strong means of establishing whether a research hypothesis is in fact valid and/or correct. Experiments are most often associated with extended essays taken in science subjects, but this does not mean that they are not possible in other areas. You might also use experiments in other subjects such as geography or economics, where experimental models can be developed and used to test hypotheses (for example, the use of the Keynesian model of economic growth to ascertain the long-run aggregate supply curve or the use of skyscraper theory to determine recession cycles).

Although there are a near infinite number of experiments one could conduct, certain basic rules apply to all of them. When setting up your experiment(s) refer to the checklist below to ensure you are on the right track and are not falling foul of any experimental guidelines.

### Note

Remember: you are **not allowed** to conduct experiments (or case studies) of your own for psychology extended essays.

Aspect	YES/NO
<b>Pre-experiment</b>	
1. Does your experiment meet the requirements listed in the IB <i>Ethical guidelines for extended essays research and fieldwork</i> ?	
2. Does your experiment meet the requirements listed in the IB <i>Sciences experimentation guidelines</i> (if applicable)?	
3. Do you have all the necessary equipment to complete your experiment (have you checked availability with your school's relevant department)?	
4. Have you gained the required permissions to conduct your experiment (e.g., from the science teacher if using laboratory equipment in school; from the parks associations if conducting research in a national park; or from the relevant government agency if conducting experiments in public property)?	



→	5. Is the completion of the experiment feasible within the 40 hours given for the extended essay as a whole?	
	6. Do you have all the required safety equipment (and have you taken the appropriate safety measures if using volatile elements)?	
<b>Experiment</b>		
	7. Is the environment free of factors that could affect the experimental results?	
	8. Have you prepared a chart or table where you will record your results?	
	9. Have you isolated your (dependent and independent) variables?	
	10. Have you incorporated a control into your experiment to act as a baseline?	
	11. Have you repeated your experiment a number of times to guarantee the reliability of your results?	
<b>Results</b>		
	12. Are your results free of researcher bias?	
	13. Have you considered the possible limitations of your experimental approach (i.e., would another method have yielded better or different results)?	
	14. Have you considered what unanswered questions may yet remain?	

### Literature-based methodological approaches

#### Tip

It is highly recommended that you mention your chosen methodological approach in your introduction as it helps the reader understand from the outset how you've gone about answering your research question.

All essays benefit from the inclusion of some form of (secondary) literature-based research so as to either ground your work within an existing body of research or support it with additional evidence. In addition, it may be the case that you are unable to conduct primary research (for example, due to a lack of equipment or resources) or you've chosen a research question that does not permit the use of primary research (such as with psychology-based extended essays). In these instances, your extended essay will invariably require a methodological approach that is rooted in secondary source material.

The table contains a list of possible approaches to take when basing research on secondary source materials for a range of subjects. It also includes examples of how to write about your approach in the introductory section of your extended essay.

Subject	Methodological approach
Literature and languages	<ol style="list-style-type: none"> <li>1. A close reading of the texts (or language feature) in question. For example: <i>This essay will offer a close reading of both texts in order to determine Kawaguchi's attitudes to religion in the works ...</i></li> <li>2. A close reading of a text (or language feature) based on a pre-existing literary theory or sociocultural interpretation. For example: <i>This essay seeks to determine the extent to which the characters in George R. R. Martin's <i>A Game of Thrones</i> challenge the 'monomyth' hero archetype as outlined by Joseph Campbell ...</i></li> <li>3. A close reading of a text (or language feature) in order to either challenge or verify existing literary criticisms or critical responses. For example: <i>This essay seeks to challenge the critical responses offered by Harold Bloom and Zadie Smith on the representations of love in ...</i></li> </ol>



<p>→ History</p>	<ol style="list-style-type: none"> <li>1. An analysis of an event or historical figure based on particular schools of history. For example:  The orthodox interpretation blaming Nazi Germany and Imperial Japan for the Second World War will be evaluated in line with the arguments put forward by revisionist historians such as A. J. P. Taylor, Charles Beard and Pat Buchanan ...</li> <li>2. A comparative study of the historiographical traditions relating to an event or historical figure. For example:  This essay evaluates the causes of the First Crusade by exploring the medieval historical accounts by Anna Komnena and William of Tyre and then counter-balancing them with those of more contemporary historians such as Thomas Asbridge and Steven Runciman ...</li> </ol>
<p>Psychology*</p> <p>Remember: You are not permitted to conduct experiments as part of a psychology extended essay; therefore, you are limited to a review of secondary source materials.</p> <p>* The same approach can be used with other individuals and societies subjects where a non-experimental approach is followed.</p>	<ol style="list-style-type: none"> <li>1. A review of existing case studies. For example:  This essay uses the Koluchová Twins (1976) and Genie (1977) case studies to determine the extent to which parental deprivation can lead to developmental delay in children ...</li> <li>2. An investigation based on existing experimental models (or approaches). For example:  This essay seeks to explore the nature of human obedience by investigating the results of both the Stanley Milgram and Solomon Asch experiments ...</li> <li>3. An investigation based on psychological theory. For example:  By means of the developmental theories of Erik Erikson and Lawrence Kohlberg, this essay seeks to evaluate the role played by the ego in shaping behaviour, with a specific emphasis on motivation ...</li> </ol>
<p>Film*</p> <p>* The same approach can be used with other arts subjects where a research question is purely based on secondary source material.</p>	<ol style="list-style-type: none"> <li>1. An evaluation based on an accepted film analysis approach, such as formalist, auteur, feminist. For example:  This essay employs a formalist analytical approach with a specific focus on how camera angles and special effects are used to enhance the theme of dread in <i>Donnie Darko</i> ...</li> <li>2. An analysis based on a sociocultural or historical approach. For example:  This essay explores the degree to which representations of class in the South Korean film <i>Parasite</i> adhere to the sociological concept of habitus espoused by Maurice Merleau-Ponty and, more notably, Pierre Bourdieu ...</li> </ol>
<p>Mathematics</p>	<ol style="list-style-type: none"> <li>1. An analysis of the effectiveness or application of a given mathematical theory. For example:  This essay uses game theory (with a focus on probability) to determine the optimal approach a player of Battleship would need to employ ...</li> <li>2. An exploration of the utility of mathematics (theory or models) in other disciplines. For example:  This essay seeks to explore the reliability of inverse modelling when trying to ascertain optimal crop distribution in geography ...</li> </ol>

## Ethical considerations

When carrying out research, it is very important to consider:

- **Informed consent:** You should, as a matter of course, tell participants what they are doing and why they are doing it.
- **How you report your findings:** You should always record and report your findings accurately and honestly.
- **Harm:** Your research should always consider the physical, social and mental well-being of your participants, and they should not be harmed by the research conducted.
- **Anonymity:** You should, as a matter of course, change the name of participants in order to protect their privacy.

## Literature review

### What is it?

Despite what the title suggests, a **literature review** is not a personal evaluation of works of literature such as those by Jane Austen or William Faulkner. Literature here means any collection of secondary sources or works produced on a given topic (for example, journals, pamphlets, news articles and books). As such, it is relevant to all subject areas.

### What is its purpose?

Before writing about any topic (for example, the theme of justice in the works of Harper Lee or the role played by nurture in the development of violent behaviour), it is useful to find out what has already been said about the topic.

This allows you to:

- better understand the topic
- make links between your ideas (or methods) and those of others
- consider whether your ideas challenge or support an existing consensus
- situate your views within a context of existing viewpoints
- track any major trends or patterns in terms of interpretation
- allow you to identify the value and limitations of source material.

### How do I go about this?

When conducting a literature review you will usually be trying to ascertain the following things:

Interpretations	Methodology	Results
<ul style="list-style-type: none"> <li>• Identify what interpretations exist and if there are any patterns emerging among them.</li> <li>• Identify alternative justifications or judgements</li> </ul>	<ul style="list-style-type: none"> <li>• Identify what approaches are best suited or recommended for your chosen topic or area of study.</li> <li>• Identify alternative methodological approaches to your topic or area of study.</li> </ul>	<ul style="list-style-type: none"> <li>• Determine which approach or sources are more reliable.</li> <li>• Identify any biases that may have affected the end results.</li> </ul>

### Key term

A **literature review** is a summative evaluation of what has already been written (or said) about a given topic.

### Note

You might wonder how many sources are enough. There is no right answer to this question. However, for the purposes of your extended essay research, aim for 5–10 quality sources, although this will obviously vary depending on the nature of the research question and topic chosen.

## Worksheet: Planning your literature review

When conducting a literature review of your chosen sources, consider the following questions to hone in on the important information that can form the basis of your essay.

Area	Question
Arguments	What are the main arguments or interpretations to emerge from the literature?
Themes	What are the main themes or areas covered by the literature reviewed?
Sections	What sections (or headings) can I subdivide my topic into?
Problems	What are the key problems relating to my topic that emerge out of the review?
Consensus	What consensus of opinion or comparisons between sources exists?
Contrast	What contrasting opinions exist within the literature reviewed?
Method	How can the chosen theory or model be applied to my investigation?
Limitations	What limitations can be identified in the method chosen or sources selected?

## Conclusions (research findings)

When examining your research findings or sources it is vital to determine the following:

Question
1. What "solution(s)" has my research indicated?
2. What has been learned from the results or data?
3. Were there any apparent contradictions that my research indicated? How have I accounted for these?
4. What, if any, were the limitations of the research approach or methodology chosen?
5. Are there any unanswered questions? Do they fall within the remit of my research question? If yes, how am I planning to answer them?





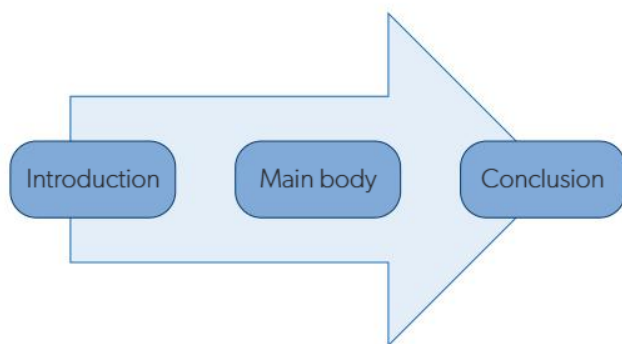
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## Writing essays



When it comes to writing an essay there is no single approach that all students should follow in terms of both style and structure. This is even more the case when considering the myriad of subjects you can write an extended essay in, each with its own established approaches. For example, an essay in a natural science may benefit from more subheadings or chapters, while a literature essay may be more suited to a free-flowing approach.

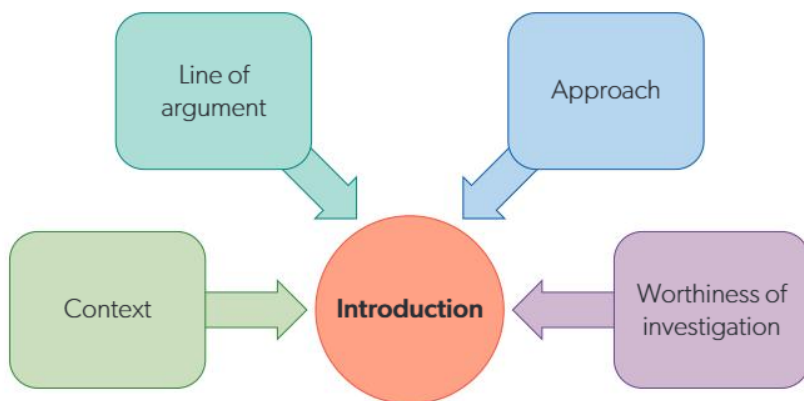
Having said that, there is a minimum expectation that all formal essays adhere to the core model of three sections—introduction, body and conclusion—which will be outlined in this chapter.



For the purposes of the extended essay, there are slightly different expectations to those that you are generally accustomed to when writing these three sections. The following pages are dedicated to helping you navigate these expectations while also providing some exemplar models that can be used to help structure your work.

## Introduction

Your introduction should include these four aspects:



Aside from giving the essay a structural outline that the reader can easily follow, these aspects help ensure that some key expectations for Criterion A (Framework for the essay) are met.

### Context

Explicitly stating your research question and providing some context that situates your question within existing knowledge is key to a strong introduction. This does not mean providing detailed background information, but rather indicating to an examiner what theories, critical approaches, methods or factors have already been suggested or exist to answer your research question.

### Note

The introduction is not the place to include detailed background information on an author, theory or topic. If you must include background information, save it for the main body or a separate section titled “Background”.

For extended essays in subjects that have specific marking categories it is also a good idea to outline how your essay meets the criteria for these. Below are some examples of how this may work:

**Language A:** In a comparative language A essay, it would be prudent to outline what texts you are using and offer a justification for how these are relevant to answering your question (for example, why *Disgrace* by J. M. Coetzee and *To Kill A Mockingbird* by Harper Lee are relevant to an essay on representations of justice).

**Language B:** In the case of a culture-based language B essay, it would be advisable to include a statement on how your chosen artefacts exemplify the specific cultural aspect your essay plans to explore (for example, how the selection of the film *The True History of the Kelly Gang* is a perfect vehicle for an exploration of contemporary notions of Australian masculinity). Likewise, for a language B essay focused on language, it is recommended to include a line or two explaining how responding to your research question is developing your own knowledge and understanding of this second language.

**Interdisciplinary essays:** In the case of interdisciplinary essays, it is strongly recommended that you include a statement outlining why an interdisciplinary approach is best suited to your question. You should also say how the chosen two subjects fit within one of the five “frameworks” for this category of essay (for example, why a question investigating representations of societal alienation in the video game *Death Stranding* by Hideo Kojima is best explored in a combined language A and visual arts essay, where both the script and visual language of the game will be analysed).

### Tip

Consider the introduction like a table of contents but in prose. As such, write the introduction last so you can more closely align it to what you actually wrote.

## Line of argument

Including the research question in your introduction is a quick way of ensuring you have made it clear to an examiner what you will be focusing on. It also allows you to specify which aspects, factors or key features you will be investigating that will help answer your overall question.

Doing this in the order they appear in the main body is advised. For example, a history essay exploring whether the use of gunpowder weapons best explains the fall of Constantinople in 1453 may make reference to other factors such as relations with Western powers, loss of territory in the preceding years, army sizes or economic factors.

Use the introduction to outline the factors you plan to explore as this will signpost your overall line of argument to the reader.

## Approach

It is vital that you discuss in your introduction how you have gone about answering your research question. This means indicating to the examiner things such as:

- a. **source material used:** this is a good place to refer to key sources you have used multiple times in the essay (for example, “this essay relies on the works of key experts in the field such as Alison McEllin, Esin Cole and Rosemin Guerrero to ascertain the extent to which ...”)

- b. **methodological approach followed:** a good introduction makes reference to any analytical models, experimental approaches or methodologies used (for example, “this essay will investigate the question by means of a SWOT analysis ...” or “this essay relies on the use of industry standard titration techniques to ...”)
- c. **critical interpretations challenged:** it is also worth mentioning if you plan to challenge a dominant theory or approach to a topic or possibly offer some reconsideration (for example, “this essay plans to challenge the key assumption that the winter weather played the most critical role in Napoleon’s defeat in Russia by focusing on the lines of communication and supply of horses as significantly more responsible”).

### Tip

Be as specific as possible in your introduction. Stating that your essay used “websites, books and journals” is not sufficient. Instead indicate exactly which authors, theories or methods have been used.

## Worthiness

Finally, it is important to indicate why your research question is worthy of investigation. Using the phrase “this research question is worthy of investigation because ...” forces you to consider worthiness by default.

The following list gives some indication of what is considered grounds for worthiness of investigation and what is not.

Worthiness of investigation	Reasons to avoid
<ul style="list-style-type: none"> <li>• The question has contemporary application (e.g., environmental benefits)</li> <li>• The issues the question explores are controversial in nature (i.e., they generate debate and have differing opinions relating to them rather than being simply scandalous in nature)</li> <li>• The conclusion to this question may shed light on other areas or issues</li> <li>• The investigation challenges existing theories or viewpoints</li> <li>• The investigation explores the validity or reliability of a chosen theory or approach</li> <li>• The question has not been covered or investigated before</li> <li>• The question relates to a core field of contemporary research</li> <li>• The topic is important in a geo-political sense as it affects groups A and B</li> <li>• The conclusions arrived at will enable greater understanding of the topic</li> <li>• The conclusions arrived at will clarify existing misconceptions</li> </ul>	<ul style="list-style-type: none"> <li>• Do not select an investigation simply because you like the topic</li> <li>• Do not select an investigation simply because you have had a good teacher</li> <li>• Do not select an investigation because you were instructed to do so</li> <li>• Do not select a topic where the conclusions act as a springboard for preaching or one-dimensional arguments</li> <li>• Do not make emotional appeals (e.g., “if only everyone did A and B, the world would be a better place”)</li> </ul>

## Exemplar introduction

Below are sections of an introduction for a history extended essay. It showcases how to include the four core aspects outlined on pages 69–71.

**Research question:** To what extent does Mu'awiya I owe his accession to the caliphate in 661 CE to the weakness of his principal rival, Caliph Ali?

### Context

Mu'awiya's accession to the caliphate is a hotly debated topic among historians with some, such as Kennedy, arguing that he owes his elevation to the weakness of the opposition as reflected in the figure of Caliph Ali. Others, such as Shaban, argue that his success owes itself in large measure to the tangible economic benefits that support for Mu'awiya provided the Arab tribes.

### Line of argument

... the essay will explore what other factors, including the governorship of Syria, the conflict with Byzantium, the dwindling role of the Ansar, and the role of the Kharijites helped Mu'awiya take over the caliphate while relying on the works of principal historians such as Kennedy, Shaban, Armstrong and Hawting.

### Approach

... this essay seeks to challenge the orthodox interpretation offered by Kennedy and instead argue that Mu'awiya's success owes much to the changing socio-economic dynamics among Arab tribesmen within the newly formed Islamic Empire.

### Worthiness

... this research question is worthy of investigation because Mu'awiya's rise to the caliphate marks a significant turning point in the development of the Islamic Empire during the 7th century and beyond. It established the tradition of dynastic and monarchic succession that would become commonplace in the ensuing centuries. The role played by Caliph Ali in supplanting the Rashidun model with a dynastic model is of critical significance to this early medieval period as it created the conditions for the schism between Sunni and Shi'a practices ...

See Worksheet 1 on page 80 for more help with this.

### Tip

The suggested word count for the introduction is 300–450 words.

### Key terms

A **free-flow** writing style is a less rigid one, where the essay is not divided into sections and simply moves from one paragraph to the next.

A **sectioned** writing style is a more compartmentalized one, where the essay is subdivided into sections or chapters.

## Main body

The main body of an extended essay can differ structurally depending on which subject (or even topic) has been chosen. When structuring an extended essay the first consideration for the main body is to choose between a **free-flow** or **sectioned** writing style.



Although there is no hard rule for this, the table below lists the most commonly seen approaches when it comes to structuring an essay in a particular subject (or topic area):

Subject or topic	Approach
Literature	Free-flow
Language or culture	Sectioned, free-flow
Individuals and societies	Sectioned
Sciences	Sectioned
Mathematics	Sectioned
Arts	Sectioned, free-flow

Irrespective of the chosen approach, all essays benefit from some clear pre-planning with regards to the core points they wish to develop in order to answer their research question.

Identifying the essay's core points is of immense help when it comes to structuring your writing as it can form the basis of the subheadings used (or in the case of a free-flow essay, the layout of the paragraphs), so that a developing argument is formed.

## Paragraph writing

Irrespective of the approach selected, all essays should feature paragraphs. The important point to keep in mind when it comes to paragraphs is that they should indicate a shift from one line of argument to another or from one developmental point to another.

The exemplar model below provides a structured approach to paragraph writing based on five parts, as shown in the diagram.

### 1. Thesis

Your thesis statement or topic sentence is your opening statement. This should be a brief opening line (or two) establishing the key element to be covered in the paragraph.

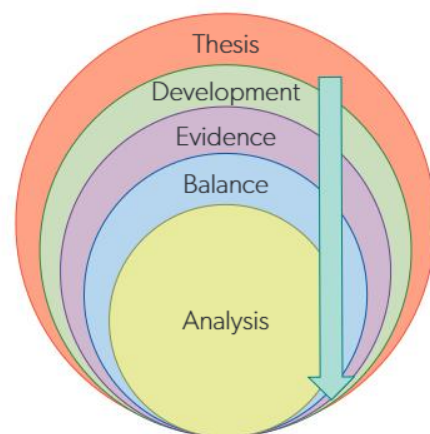
### 2. Development

This is an elaboration of your principal thesis—the meaning of your thesis and the areas it touches upon, for example.

- It should flow naturally from the thesis.
- It can offer mini analyses as you wrestle with the implications of what you're saying.

### 3. Evidence

This is the most important part of each paragraph. All theses and points raised in your development should be supported by evidence.



This could take the shape of:

- quotations from secondary sources
- examples from real-life situations (such as news articles, events)
- examples and/or events from personal experience (the knower's perspective)
- facts and data (such as statistical information and measurements)
- illustrations and diagrams (both primary and secondary in nature).

#### 4. Balance

A balance of perspectives should be given to offer alternative perspectives to the key thesis under consideration. This should be in either the existing paragraph or in a completely new one.

#### 5. Analysis

At the end of each paragraph there should be a sentence (or two) linking back to the overall research question.

You should be able to answer the following question in each paragraph:  
*What insight does this paragraph offer to the overall question?*

The analysis could also suggest any contradictions or unresolved issues.

#### Exemplar paragraph

Below is an example of how to use this five-stage model to structure a paragraph from a history extended essay.

**Research question:** How significant a role did the Prophet Muhammad's military victories play in the rise of Islam in the Arabian Peninsula?

1. <b>Thesis:</b> Establishes what point or issue your paragraph is going to develop. This should be written in the form of a statement that is relevant to the overall question or topic being addressed.	Muhammad's string of early military victories, primarily against the Quresh, were a significant factor in the early development of Islam.
2. <b>Development:</b> Explains or elaborates in greater detail what is meant by the thesis statement.	During Muhammad's prolonged exile in Yathrib (Medina) from 622 to 630 CE, his position as the pre-eminent religious leader of the nascent Islamic community ( <i>umma</i> ) was consolidated and secured by his ability to defeat the enemies of Islam in accordance with practices the local Arabs ( <i>badw</i> ) would recognize as noteworthy. Muhammad, in true tribal chieftain form, was able to attract supporters to his fold through the pursuit of raids and campaigns which bolstered his reputation and standing among his fellow men.
3. <b>Evidence:</b> All statements must be supported by one or more pieces of evidence, including events and examples.	According to Armstrong, the Prophet Muhammad's victory at Badr "impressed the Bedouin tribes, some of whom enjoyed seeing ... the mighty Quraysh brought low" (Armstrong, 2002, p.17). In time, Muhammad's victory at the Battle of the Trench, where his force of 3,000 defeated a force three times larger, "convinced the nomadic tribes that Muhammad was the coming man and made the Quraysh look decidedly passé" (Armstrong, 2002, p.17).





4. **Balance:** Offer an argument opposite to the one you are making to show you have looked at the issue from more than one angle, but make sure you counter-argue so that you have still made your point.

However, despite the prestige gained from Muhammad's victories, these alone would have been worth nothing had he not followed it up with a more localized campaign in Medina and its surrounds to root out his most dangerous ideological rivals, principal among those being the Jewish clans who had aligned themselves with the Meccans (Qaynuqah, Nadir and Qurayzah).

5. **Analysis:** The last few lines of your paragraph should answer the following question:

- What does all of the above have to do with the question?
- OR
- How does the above information link back to the question?

It becomes increasingly clear, therefore, that Muhammad's military victories significantly aided his reputation and prestige among the Arab tribes by playing on local sensitivities and traditions of "good" leadership. However, these would not have translated into long-term benefits had it not been for his parallel campaign against ideological and political rival bases.

Bibliographic sources used in this example: Armstrong, K., *A Short History of Islam*, Phoenix, 2002.

### Things to avoid in extended essay paragraphs

#### 1. Personal pronouns with opinions

For example: I believe/I think that one of the factors that led to Muhammad's victories ...

Instead, frame the sentence into a statement: One of the major factors that led to the rise of Islam in the 6th century ...

#### 2. Direct yes/no responses

For example: No, I disagree that the military victories ...

Instead, frame the response into a statement that establishes your viewpoint: It is difficult to agree with the statement that the military campaigns alone ...

#### 3. Incorrect spelling of familiar or key words

Consistent bad spelling of key terms and words creates a negative impression.

For example: new York, hitler and effect vs affect

#### 4. Excessive narrative

For example: ... did play a part because that led to an argument between Muhammad and the Quresh, which then led to a war where many people were killed ... and then there was a reprisal attack.

Avoid writing a history of events. Examiners are looking for an analysis of events, not a full retelling. Instead, opt for a summative statement or major topic sentence/heading that includes all the information within it: **The military campaigns played a critical part in establishing Islam as the predominant sociocultural force in Arabia and, by extension, a political power as it exploited the pre-existing Arabic cultural norms.**

### Tip

The suggested word count for each paragraph is 300–450 words.

### 5. Inaccuracies

For example: The Battle of Waterloo was a military victory for Napoleon.

Ensure you revise your notes so that your content is 100% accurate.

### 6. Misuse of punctuation marks

Don't be scared of the full stop! When the central meaning of a sentence changes, you need to indicate that with a full stop. Commas are also helpful to break up linked ideas within a long sentence.

## Main analysis

When conducting an analysis you are effectively relating the material gathered to the primary focus and objectives of your extended essay's research question. The key questions you should be asking of your sources are:

1. How does the information gathered relate to my question?
2. What answer (even partial) does the source provide?

When conducting an analysis:

- You must demonstrate a scholarly interpretation of your findings; this means that you must draw links to academic theories or approaches relevant to your subject, not simply tell a narrative or provide a description of the data.
- You must provide evidence to support your various points and highlight the relationship between them; this often means referring to your primary and secondary research findings (including any statistics, tables and diagrams) to support your argument.

### Note

Examiners want to see a logical argument develop that is well-supported by relevant evidence.

## Analytical structure

The following tips and strategies should help you structure and show your analysis.

### Use reporting verbs

Reporting verbs help strengthen and support a line of argument while also indicating to the examiner why or how the source is useful.

There are numerous reporting verbs but some of the most common can be found below.

1. Verbs that present the author's viewpoint	<ul style="list-style-type: none"> <li>• Vickers (1997) <b>argues</b> ...</li> <li>• Andrews (2014) <b>conceded</b> ...</li> </ul>	<ul style="list-style-type: none"> <li>• Headley (2001) <b>disputes</b> ...</li> <li>• Jones (2011) <b>reinforced</b> ...</li> </ul>
2. Verbs that offer a neutral or objective assessment	<ul style="list-style-type: none"> <li>• Cole (1998) <b>describes</b> ...</li> <li>• Pagomenakis (1992) <b>defines</b> ...</li> </ul>	<ul style="list-style-type: none"> <li>• McEllin (2019) <b>highlights</b> ...</li> <li>• Guerrero (2004) <b>states</b> ...</li> </ul>
3. Verbs to provide insight into the thoughts and feelings of the author	<ul style="list-style-type: none"> <li>• Chittenden (1996) <b>believes</b> ...</li> <li>• Anderson (1999) <b>contested</b> ...</li> <li>• Shah (2010) <b>criticized</b> ...</li> </ul>	<ul style="list-style-type: none"> <li>• Carter (1978) <b>estimated</b> ...</li> <li>• McCartney (2000) <b>evaluated</b> ...</li> <li>• Baxter (2003) <b>recognizes</b> ...</li> </ul>
4. Other useful verbs	analyse, claim, comment, compare, conclude, demonstrate, discuss, illustrate, indicate, investigate, note, observe, point out, report, show, suggest, validate, verify	



## Use linking words

In order to ensure your argument flows, link your ideas together so they read as one developing argument. The best way to do this is to use linking words.

1. <b>Building up an argument</b>	and, also, as well as, moreover, further, furthermore, in addition, additionally, next, firstly, secondly, thirdly, in conjunction
2. <b>Drawing comparisons</b>	similarly, likewise, in the same way, equally, challenging
3. <b>Highlighting contrasts</b>	although, for all that, however, on the contrary, conversely, otherwise, yet, but, even so, despite
4. <b>Indicating similarities and/or differences</b>	yet, even so, despite, notwithstanding
5. <b>Providing reasons or a rationale</b>	for this reason, to this end, for this purpose, because, since, so that
6. <b>Explaining results</b>	as, as a consequence, as a result, hence, therefore, thus, inevitably, so
7. <b>Citing examples</b>	for example, for instance, in other words, by way of illustration, such as, this demonstrates, which can be seen in, as cited by
8. <b>Arriving at conclusions</b>	as has been noted, finally, in brief, in short, to summarize, consequently, therefore, in conclusion, in other words, accordingly

## Create a logical order

Read through your work and then move the paragraphs or sections around so that the argument flows or develops in a logical order. The key is to ensure that each paragraph (and section) builds naturally from one to the other. It is often useful to have someone else read it (like a friend or relative) to see if they can follow your line of argument. If they can't, the chances are neither will an examiner.

## Use sources

Sources must always act as the foundation of any analysis as they provide an externally validated support to your own ideas and writing. Sources\* should be used for the following purposes:

### Tip

When writing, leave a line between paragraphs to indicate that you are moving on to another analytical point.

<p>1. <b>Providing further explanation</b> Use a source to add further detail to a line of argument or to some relevant facts that you've referred to.</p>	The Fourth Lateran Council provided Pope Innocent III with a platform to reimpose papal authority over European bishops, which Geralt (2003) adds was also "a much-needed stimulus for the Papacy".
<p>2. <b>Providing agreement</b> Use a source to provide agreement or arrive at a consensus on a point or key issue.</p>	The Fourth Lateran Council was a watershed moment for Pope Innocent III as it not only provided him with a basis for reimposing papal authority over the bishops but also signalled the power of papal institutions. This is a view shared by Merigold (2022) who argues that "Innocent's council marked the beginning of a return to form for the Papacy".
<p>3. <b>Providing alternative viewpoints</b> Use a source to provide alternative points of view or varied approaches to a key point or issue.</p>	The Fourth Lateran Council was a watershed moment for Pope Innocent III as it not only provided him with a basis for reimposing papal authority over the bishops but also signalled the power of papal institutions. However, Riannon (1999) argues that "Innocent's council marked a last ditch, desperate move by the Pope to regain the initiative".

\*All quotations above have been written by the author for demonstration purposes only.

**Be heard**

Provide your own voice to any discussion or debate by commenting on the results, data and any findings you've come by. Ask the ever-important question: *What does this information reveal about my research question?*

**Conclusion**

The conclusion to an extended essay must be taken very seriously as it brings your essay to a formal close and is directly assessed under Criterion D (Discussion and evaluation).

A conclusion **must** answer the research question on the cover of the essay. This may seem an obvious point, but far too often students respond to a variant of their research question or end up writing an essay that focuses on elements other than what is written on the cover of the essay. In all cases, ensure your conclusion (and essay) responds to the **actual research question**. This often means editing the question to match what you actually wrote about rather than changing your entire essay to fit an original question you have deviated away from!

The conclusion should reiterate the key findings and main points developed in the body of the essay and provide a resolution to your research question.

Below is a list of things that can feature in a conclusion, together with a list of things to avoid.

Include	Avoid
<ul style="list-style-type: none"> <li>• a response to the actual question on your title page (ensure you have not drifted into responding to a slightly different question or focus)</li> <li>• comments on any inconclusive findings or multiple interpretations, if that is what your research has indicated</li> <li>• a disproof of your core thesis, if your evidence has led you to this conclusion</li> <li>• an evaluation of the value and limitations of the methodology, process or sources you have used, along with the effectiveness of each in responding to your chosen question</li> <li>• any unresolved or additional questions that have arisen as a result of your research and an explanation of why their answer goes beyond the remit of the current work</li> <li>• a summary of the key points raised in the main body, synthesized into a final analysis</li> </ul>	<ul style="list-style-type: none"> <li>• introducing any new material (this includes quotations not seen before in the essay)</li> <li>• offering no conclusion whatsoever (you should offer a resolution even if it is partial or incomplete)</li> <li>• including any emotive or personal statements</li> <li>• including any accusations (it is not your role to judge)</li> <li>• answering a question that is different to the one on the cover</li> </ul>

## Exemplar paragraph

Below is an example of a conclusion from an English literature extended essay that meets the general requirements as outlined earlier.

**Research question:** To what extent could Bram Stoker's *Dracula* be read as a representation of British imperial anxieties relating to reverse colonization?

Stoker's Britain was a nation that had forged a colonial empire. The British had invaded various peoples around the globe and a common view in Britain at the time was that they had brought the "gifts" of their civilization to these foreign lands. In Stoker's time, however, this imperialistic policy seems to have also created a sentiment of fear and guilt—a sentiment that would be poignantly brought home in the figure of Dracula, who acts as a potent figurehead of reverse colonization in action. This fear of reverse colonization, as has been made clear in the essay, is coupled with a profound sense of guilt at the situation of domination and subservience created out of Britain's imperialistic hegemony.

The England of Stoker's time was in doubt as to its right to rule these foreign peoples and feared that one day the situation might be reversed. These fears and guilt were a natural by-product of the acknowledgement of the cycle of history that outlined how one race gave way to another or how one civilization replaced another. It was now England's turn to feel the sting of history and to begin to question their empire's stability. Stoker, being acutely aware of this imperialistic crisis that gripped his country during the 19th century, expressed it quite potently in the figure of Dracula. Dracula seduces upstanding British citizens (such as Lucy and Mina) through a combination of blood contamination and, more alarmingly to the Victorian mind, through his skilful mirroring and appropriation of "civilized" British practices (such as legal contracts, seeking advice from solicitors, land ownership, Victorian attire). Dracula's calculated invasion of England, therefore, could easily be read as the threat of reverse colonization coming out of the East. The end result is a character and novel that stands as a signature projection of contemporary anxieties transposed onto the pages of horror fiction.

Naturally, this essay acknowledges that this is only one of a myriad of possible interpretations and that the socio-historical approach followed here ignores possible psychological or genre-specific readings that may yet challenge the points raised within this essay.

Summarize main points

Offer summative synthesis of key points (linked to research question)

Acknowledge limitations

### Tip

The suggested word count for the conclusion is 350–450 words.



## Worksheet 1: Meeting the introduction requirements

**Context:**

What key aspects can you discuss to ensure you have provided some context underpinning your research question?

**Line of argument:**

What features, aspects, factors, theories and so on will your essay employ in order to arrive at a conclusion?

**Approach:**

What authors, scientists, case studies, theories and so on have you consulted to answer your research question? Remember to be specific.

**Worthiness:**

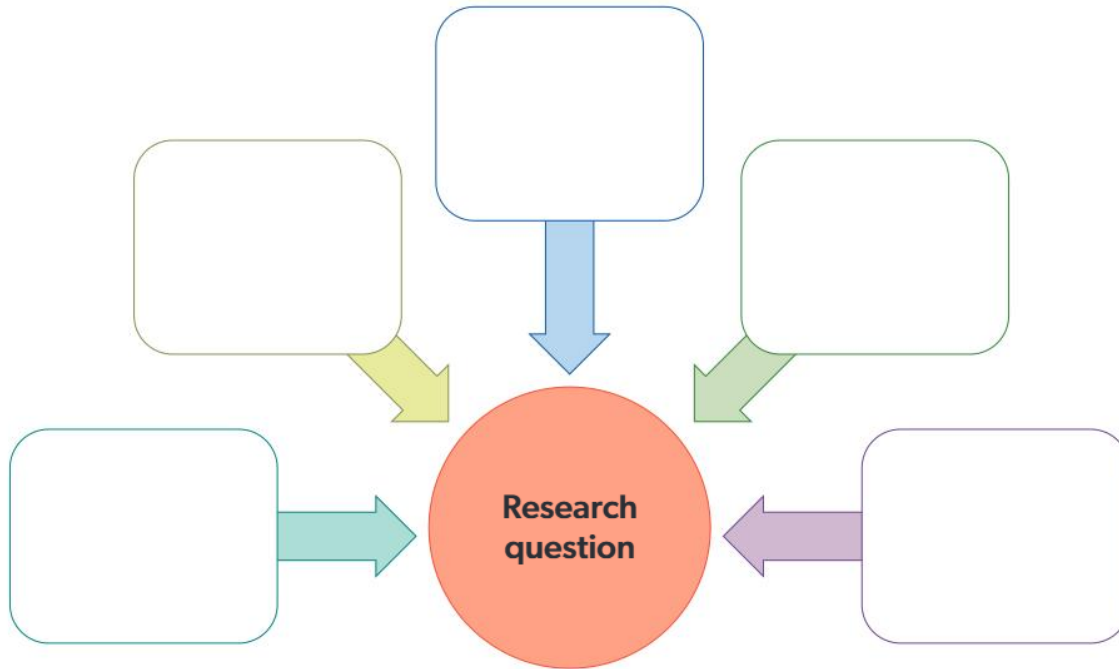
Why is your research question worthy of investigation?



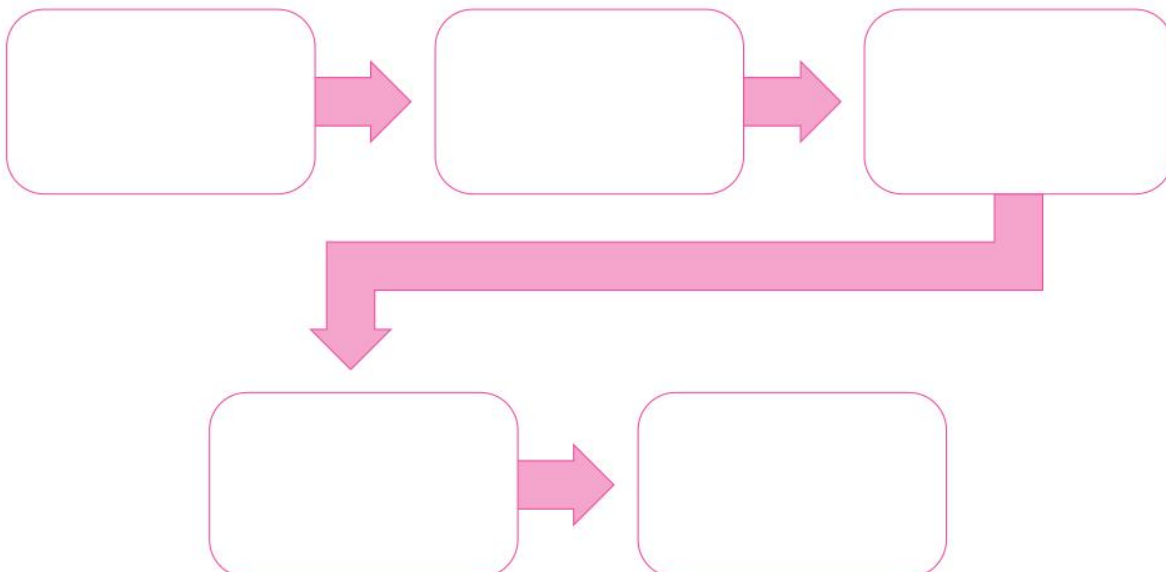


## Worksheet 2: Organizing the main body's key points

A. Identify the main points you are going to develop in the body of your essay that directly relate to your research question.



B. Now place them in the order that best enables an argument to develop. You may wish to start with your strongest point or a factor included in the research question itself before moving on to other subsidiary points (or factors). Or you may wish to build up to your strongest point.





# 6

# Supervision

For an extended essay to be successful and achieve high marks it requires strong supervisory support. This chapter focuses on the process of supervising an extended essay and therefore is aimed at supporting you (and your supervisor and school's EE/IB DP coordinator) with regards to maximizing the input and feedback from the supervisory sessions. This will include the three mandatory sessions that form the basis for completing the reflection and progress form (RPF) which is submitted along with the extended essay itself.

## Calendar

On the following page is an exemplar calendar for the extended essay. The calendar outlines the types of support sessions a school's EE coordinator (or IB DP coordinator) and other support staff (such as librarians) could run for both students and staff to ensure consistency in terms of approach to guidelines and requisite skills for the extended essay.

Do note that this calendar is one of many possibilities for managing the extended essay timeline in a school and any final version will be dictated by the individual needs, contexts, time constraints and circumstances faced by each school. After all, the IB leaves all decisions relating to progress planning up to individual schools. Having said that, the example should be a useful starting-off point as a possible template.

### Note

The calendar is based on northern hemisphere school years (September to June), but could easily be adapted for the southern hemisphere.

The example calendar is punctuated at the end of the first year of your IB studies with a presentation showcase called the **Extended Essay Café (EE Café)**. Here you present your findings up to that point to a panel of "judges" who can evaluate if you are on track to begin writing your extended essay between the first year of your IB studies and the beginning of the second year. Please note that the EE Café as described in this book is merely a suggestion to assist with planning the extended essay and any such event could take on different guises as each school sees fit.

The calendar also includes progress check forms, contracts and support emails that an EE coordinator could consider using (or adapting) to keep track of your progress and support you and your supervisor throughout the duration of the extended essay process.

### Key term

An **Extended Essay Café (EE Café)** is an opportunity for you to formally present your extended essay research findings to date to a panel of supervisors and/or coordinators while in the presence of your parents and peers.

An exemplar model for this event is included on pages 101–105.

Exemplars for the progress check forms, contracts and support emails can be found from page 85 onwards.



Step and time frame	Details	Documents due	Student support	Staff support
<b>Core skills development</b> September to October	<ul style="list-style-type: none"> <li>Research methods (such as quantitative, qualitative, interviews, online journals)</li> <li>Referencing skills</li> <li>Literature review skills</li> <li>Assessment criteria outlined</li> </ul>		EE coordinator and/or librarian sessions on these attributes	
<b>STEP 1</b> Early November	Supporting students to progress from topic to research question		EE coordinator session/advice on research questions	EE coordinator workshop on research questions
<b>STEP 2</b> Late November	Feasibility/viability report (students submit 5–10 sources, correctly referenced, to prove viability of proposed research question)	<ul style="list-style-type: none"> <li>Form 1</li> <li>Contract</li> </ul>		
<b>STEP 3</b> Mid-December	<ul style="list-style-type: none"> <li>Issuing of supervisory lists to students</li> <li>Reintroduction to assessment criteria</li> </ul>		<ul style="list-style-type: none"> <li>Session by EE coordinator on EE assessment criteria</li> <li>Distribution of criteria booklet</li> </ul>	Session on assessment criteria (subject-specific)
<b>STEP 4</b> Early/mid-January	Schedule appointment with supervisor and meet for first time	Form 2		Support email sent to staff with list of points to cover in first session. See page 92 for things to include in the first meeting
<b>STEP 5</b> Mid-January to mid-March	<ul style="list-style-type: none"> <li>Meet with allocated supervisor at least twice (10–20 min sessions)</li> <li>Complete first reflection notes, for use in the RPF</li> </ul>	Form 3		Support email sent to staff with list of things to cover in preparation for Form 3
<b>STEP 6</b> Mid-March to June	<ul style="list-style-type: none"> <li>Students prepare for EE Café (presentation)</li> <li>Meet with supervisor before this</li> <li>Hold EE Café (ideally a full day off timetable)</li> </ul>	Form 4 (could possibly be completed on day of EE Café)	Presentation to students outlining requirements and presenting exemplars by IB team (and potential volunteer)	Support email outlining EE Café process and recommendations for support during meetings with students
Summer: June to September	Students begin writing first draft of their EE			





<p>→ <b>STEP 7</b> (The second year of IB studies) September to October</p>	<ul style="list-style-type: none"> <li>Students submit completed first draft, including plagiarism check report</li> <li>Complete second reflection notes, for use in the RPF</li> </ul>		<p>IB team session on:</p> <ol style="list-style-type: none"> <li>Presentation</li> <li>Introduction</li> <li>Conclusion</li> </ol>	<p>Plagiarism check workshop</p>
<p><b>Marking and feedback</b> <b>Applying the EE grade descriptors</b> October to November</p>	<p>Supervisors read and provide feedback on submitted first drafts</p>			<p>(Optional) Refresher workshop by EE coordinator on assessment criteria or Collaborative supervisor session(s) focused on understanding and applying the EE grade descriptors</p>
<p><b>STEP 8</b> October to December</p>	<ul style="list-style-type: none"> <li>Students work on their first drafts with aim to produce final version</li> <li>Final version to be submitted</li> </ul>	<p>Final version due: December</p>		
<p><b>STEP 9</b> <b>Viva voce</b> January onwards</p>	<ul style="list-style-type: none"> <li>Students make appointment with supervisors to complete the viva voce (interview)</li> <li>Complete the summative reflection in the RPF</li> </ul>		<p>IB team session on viva voce—what to expect and how to plan for it</p>	<p>Support email with viva voce guiding question and exemplars</p>

## Overview of forms

Many schools now opt to have their students sign an undertaking (or contract) that outlines their responsibilities and the nature of the supervisory support they will receive. On the following page is an exemplar contract that supervisors may consider using or adapting for their own purposes.

Exemplar progress forms can be found on the following pages to help with the management of the extended essay by both you and your supervisor/ coordinator. These are divided in accordance with the exemplar assessment calendar and are intended to help supervisors and coordinators monitor your extended essay progress.

### Supervisor guidance

Bear in mind that the IB does not mandate such contracts, but they do prove useful as a means to familiarize students with their obligations when it comes to this independent research task. They also are useful for making students aware of the limitations imposed by the IB on the support available.

Form	Purpose
Student undertaking	An exemplar form to be signed by you, the student, where you indicate your understanding of your obligations in relation to the extended essay and acknowledge the extent of your supervisor's role in the process
Extended essay progress form 1: Proposed subject and topic	An initial form to indicate your choice of subject(s) and topic(s) that you wish to pursue for consideration by a coordinator/supervisor
Extended essay progress form 2: Research readiness	A form documenting your completion of key preliminary steps before you begin the in-depth research and reading that will lead up to the initial writing phase
Progress form 3: Writing readiness	A form documenting your readiness to begin writing the extended essay (or at least sections of it) after having completed an adequate amount of research and reading
Progress form 4: Progress check	A form that serves as a summative snapshot of your progress (both in terms of research and initial writing), usually before the end of the first year of your IB studies. It works very well when you are expected to present your work to date to your supervisor in a format similar to the EE Café suggested in Chapter 6 on pages 99–105

Student undertaking (extended essay)	
Student name:	<input type="text"/>
Candidate number:	<input type="text"/>
Supervisor:	<input type="text"/>
EE subject:	<input type="text"/>
<b>A. I hereby recognize that as a student undertaking an extended essay as part of my IB Diploma Programme or courses, it is my responsibility to:</b>	
• read the latest version of the general guidelines for the extended essay	<input type="checkbox"/>
• read the subject-specific guidelines for my chosen extended essay subject	<input type="checkbox"/>
• adhere to any deadlines and meeting requests specified by the EE coordinator and my supervisor	<input type="checkbox"/>
• adhere to all policies relating to academic integrity, especially with regards to the referencing of all source material used in my extended essay, and agree that any breaches with regards to academic integrity are my responsibility	<input type="checkbox"/>
• adhere to the IB's <i>Ethical guidelines</i> at all times.	<input type="checkbox"/>
<b>B. I hereby acknowledge that my supervisor's responsibility is to:</b>	
• provide encouragement and advice specific to the subject and topic chosen	<input type="checkbox"/>
• provide general guidance with regards to appropriate research skills	<input type="checkbox"/>
• validate the originality of my work	<input type="checkbox"/>
• provide me with one piece of formal feedback (on the first complete draft)	<input type="checkbox"/>
• complete the supervisory report and sign my reflection and progress form.	<input type="checkbox"/>
<b>C. I hereby acknowledge that my supervisor's responsibility is not to:</b>	
• tell me what to write or provide me with a research question	<input type="checkbox"/>
• provide me with research or source material	<input type="checkbox"/>
• edit my work (including annotating my writing and/or checking my research findings)	<input type="checkbox"/>
• spend more than five hours (cumulatively) supervising my EE.	<input type="checkbox"/>

→			
D. I understand that my supervisor, although striving to support me in the best possible way, cannot guarantee a specific grade.			<input type="checkbox"/>
E. Finally, I recognize and agree that no grade will be awarded for the extended essay if I am found in breach of the rules governing academic integrity.			<input type="checkbox"/>
Student signature:		Parental signature:	
Date:		Date:	
Supervisor signature:		Coordinator signature:	
Date:		Date:	

Extended essay progress form 1: Proposed subject and topic			
Due by [ ] to the IB DP/EE coordinator			
Student name:			
Diploma Programme subject choices			
Standard level	Higher level		
Proposed EE subject (choice 1)			
Specific topic area or initial research question			
Rationale for choosing this topic area			
Proposed EE subject (choice 2)			
Specific topic area or initial research question			
Rationale for choosing this topic area			
Has the student attached a list of suitable sources (feasibility study) to support the proposed essay topics?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Comments
Student signature:		Date:	
Coordinator signature:		Date:	





## Extended essay progress form 3: Writing readiness

Due by [ ] to the IB DP/EE coordinator

Student name:

Supervisor:

Subject:

Refined research question:

## Writing readiness check

Action	Yes	No	Supervisor's comments
<p>1. Can the student demonstrate completion of planned reading and research?</p> <p>This includes (as applicable):</p> <ul style="list-style-type: none"> <li>• experiments</li> <li>• fieldwork</li> <li>• writing of notes</li> <li>• data recording</li> <li>• organization and analysis of findings.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Does the student intend (or need) to complete further reading and research? Specify.	<input type="checkbox"/>	<input type="checkbox"/>	
3a. Has the student experienced any challenges in their research? Specify.	<input type="checkbox"/>	<input type="checkbox"/>	
3b. If yes, has the student overcome these challenges or do they have a plan in place to do so?	<input type="checkbox"/>	<input type="checkbox"/>	
3c. If yes, have these challenges required any changes to the student's research question?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Does the student require additional time before beginning the writing phase?	<input type="checkbox"/>	<input type="checkbox"/>	

## Additional comments

Student signature:

Date:

Supervisor signature:

Date:



## Supervisory support emails

In this section is a recommended process to follow in terms of supervisory sessions. The key aim is to enable both you and your supervisor to make the most of these sessions.

### Supervisor guidance

The following is a series of support emails that an EE coordinator could send out to supervisors at key junctures in the supervisory process. The timing of these support emails can be found in the exemplar calendar provided on page 84. These emails can complement and be blended into the three mandatory sessions that will form the basis for the completion of the RPF.

### Note

The emails offer structural guidance for you in terms of things you should be working towards or be prepared to discuss with your supervisor at key junctures in the extended essay process. It never hurts to go to your supervisory sessions with the information or planning indicated below, or at the very least, to request support from your supervisor along the lines indicated.

### The first meeting

To: Supervisors

Subject: First EE meeting

Dear supervisors,

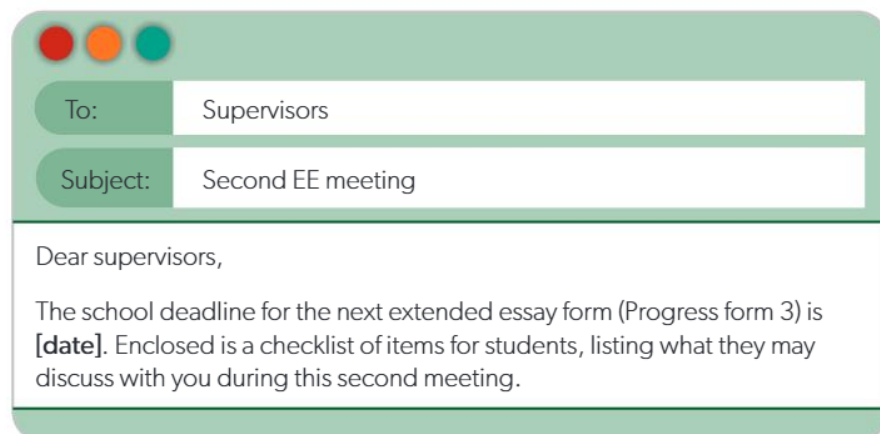
All students should be making appointments to see you regarding Progress form 2, which needs to be handed in. The general expectation is that supervisors support them through a discussion of the initial stages of their extended essays. Enclosed is a checklist of items for students, listing what they should discuss with you during this first meeting.

**First session: Things you should be prepared to discuss**

<b>Criteria</b>	As a first step, you should go over the subject-specific assessment criteria with your supervisor. There are slight differences in terms of how a criterion is interpreted from subject to subject. There may also be subject-specific expectations that you will need to meet (e.g., an interdisciplinary essay will need to fit within one of five prescribed frameworks or writing a language B essay on culture means you need to be clear on what constitutes a valid cultural “artefact”).
<b>Research question</b>	<p>It is important for you to work with your supervisor in this initial meeting to narrow your topic and question down to a manageable scope (i.e., capable of being covered in 4,000 words).</p> <p>It is also imperative that you investigate the viability of your topic with your supervisor. For example, do you need special equipment? Are the resources available in the region or in school?</p> <p>This is especially true if the nature of your question requires you to conduct primary research that is not readily available (e.g., theatre productions or fibre-optic equipment).</p> <p>It is also common for you to have chosen a wildly interesting but impractical question in the sense that there are little or no resources available in general. It is vital in such instances to heed the advice of your supervisor.</p> <div style="background-color: #0056b3; color: white; padding: 5px;"><b>Note</b></div> <p>Remember that if you wish to pursue a particular question, then it is ultimately your responsibility. Do not expect your supervisor to prescribe or create a research question for you.</p> <p>For some useful strategies on how to best design a working research question, see Chapter 2, page 21.</p>
<b>Exemplars</b>	<p>Ask your supervisor to issue you with an exemplar essay (or two) in your chosen subject. There are a number of A-grade exemplar essays on the IB’s Programme Resource Centre (accessed through My IB) that your supervisor should have access to or which the school’s IB DP coordinator can grant access to. The same website contains examiner reports that shed useful light on good and bad approaches, while also offering tips and recommendations.</p> <p>Your school is also likely to be in possession of other exemplar material (from previous student groups, for example), so do ask.</p>
<b>Library</b>	Ensure you speak with your school’s librarian, who could advise you on existing in-school publications, online access to journals, and other resources that could prove useful. The library may also hold copies of previous extended essays you could look to for inspiration and ideas on workable questions.
<b>Structure</b>	Work with your supervisor to devise a plan for how your research question could be structured or go to the session with a proposed structure you have in mind for review (chapter headings, for instance). Mind maps, flow charts and other models could prove useful here to help you visualize your essay’s structure even at this early stage. It will also help with your research focus as you will know what areas need to be covered to successfully respond to your initial question and topic area.
<b>Time management</b>	If you are finding it difficult to plan your time due to other assessment pressures or extra-curricular demands, it may be useful to speak to your supervisor about creating a workable plan and helping you to stick with it. A structured research timeline or more specific timetable will help you to see exactly what is required and when.
<b>Resourcing</b>	Start thinking about the resources you may need to either purchase or locate (such as online or in local libraries). It will also help to work with your supervisor on prioritizing your reading so you don’t waste too much time on peripheral material.



## The second meeting



Dear supervisors,

The school deadline for the next extended essay form (Progress form 3) is **[date]**. Enclosed is a checklist of items for students, listing what they may discuss with you during this second meeting.

### Second session: Things you should be prepared to discuss

<b>Passivity</b>	<p>You may find that you have not done as much as you would have hoped since your first supervisory session. If this is the case, do discuss the reasons for this with your supervisor and work with them to find ways to overcome or avoid this in future sessions. It is often helpful to have stricter deadlines and another quick follow-up meeting in a week or two. The key here is to be honest and practical in your approach as the supervisor is there to guide you in these areas.</p>
<b>Reading</b>	<p>Be prepared to discuss your reading and research (e.g., experiments and fieldwork) with your supervisor. Ideally, you should aim to comment on articles, chapters, journals, web pages and any other material you have researched.</p> <ul style="list-style-type: none"> <li>• What did you find out about the topic? Any surprises?</li> <li>• Any useful lines of thought or approaches to the question?</li> </ul> <p>Be wary of the common trap that many students find themselves in here, which is to assume that possessing materials or having done some preliminary scans for them is the same as having conducted research. You need to be able to prove to your supervisor through your reading that the resources gathered are enough to substantiate your question. This is why the reading of resources or the conducting of experiments (where applicable) is important by this stage because it helps form the core of your research investigation. Being prepared and able to answer questions about your research is therefore a useful exercise.</p>
<b>Notes</b>	<p>Ask yourself if you have a workable note-taking system in place. There is often an assumption that you will be able to simply read the material gathered and then write off the top of your head from memory. This is not a good approach to a research paper of this scale.</p> <p>Seeing as you are required to cite sources when you use them (or keep running footnotes), a note-taking system is essential. As a basic model, jotting down quotations or interesting points and the book title and page number(s) they came from is a minimum expectation when it comes to notes. Work with your supervisor on a note-taking system that works well for the chosen subject area for your essay.</p> <p>For some useful suggestions on note taking, see Chapter 3, pages 52–53.</p>



<p>→ <b>Essay plan</b></p>	<p>It is very important to go over your essay plan with your supervisor or to begin to look at options on how to best structure the essay. This could be in a form such as a mind-map or webbing. It will also help if you revisit your initial planning from earlier sessions and see what aspects may need further work or adapting to new discoveries you have made as a result of your ongoing reading and research.</p> <p>Once again, bear in mind that your supervisor's role is not to prescribe any one approach to your question but simply to ask probing questions to help you clarify an optimum essay plan.</p>
<p><b>Exemplars</b></p>	<p>Go over existing extended essays again so that you have a better idea of the scope of the paper you are going to finally create along with different approaches to its overall structure (i.e., what parts it may end up containing).</p> <p>It may also be a useful exercise to mark a pre-existing essay and then review the rationale for your marking with your supervisor. This allows you to engage with the assessment criteria first-hand and thus write your own essay with them firmly in mind.</p>
<p><b>Time management</b></p>	<p>A usual problem with extended essays is time management. Many students mistakenly believe that they will have plenty of time to complete the essay later. Work with your supervisor on this and be prepared to make some adjustments to your normal routines to accommodate any delays or issues with your EE so far. Bear in mind these adjustments are necessary but temporary. Often, setting aside one free period every two weeks to work on your EE helps significantly. Work with your supervisor to formally set something on your timetable. Sticking to deadlines will ensure you can get this task done so that you can focus on other work required as part of your studies.</p>
<p><b>Writing</b></p>	<p>It is not essential for you to have written anything yet in terms of the actual EE, but it also does not hurt to have started jotting things down that you can then build the rest of your EE around. Bear in mind that writing proper should begin in the next few months, and in earnest during the end-of-year break. The more versions you are able to write, the better your EE will be. You can't work with nothing, so do commit to getting started on writing after this supervisory session.</p>
<p><b>Research question</b></p>	<p>Tweaking or adapting your research question is perfectly fine. However, avoid wholesale changes to your topic area and question at this juncture as you will struggle to complete the work in time otherwise.</p>

### Upcoming Extended Essay Café (optional)

●
●
●

To:

Subject:

Dear students,

We will be running an EE Café on **[date]**. You will be asked to present your research findings to date in a formal setting to your peers, supervisors and parents. You should have been actively working on your extended essay so that you have something meaningful to present.

The purpose of the EE Café is to get you focused on your investigation and provide you with an opportunity to communicate your research, discoveries and challenges to your audience. This will be in the style of a master's or PhD presentation to a university board so you will have this practice experience also. It will also double up as a meeting for you to complete Progress form 4.

## The third meeting: draft submission

●
●
●

To: Supervisors

Subject: Third EE meeting

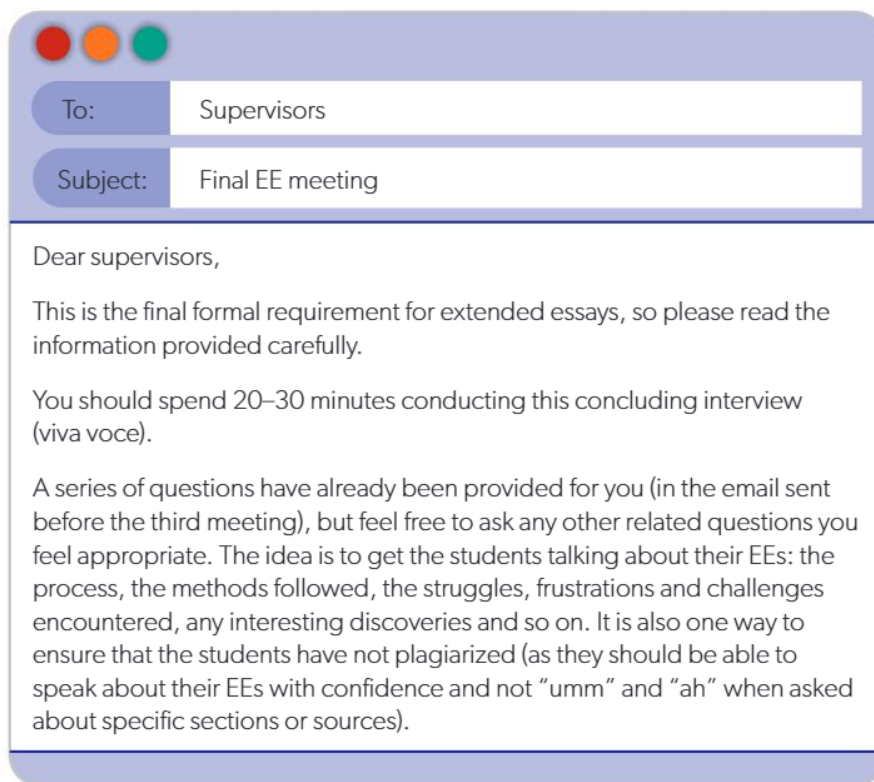
Dear supervisors,

Students will be expected to submit a complete working draft of their extended essay to you by **[date]**. This draft should contain all sections of the EE as specified in the marking criteria. Enclosed is a checklist of items for students, listing what they may discuss with you during this third meeting.

### Third session: Things you should be prepared to discuss

<b>Marking</b>	You should be expecting to receive feedback on the first full draft of your extended essay from your supervisor. Be prepared to discuss ways you can improve across all the assessment criteria. These can be found in the Programme Resource Centre for your supervisors or on some internal school platforms. Ask your supervisor about this so your feedback can be specific and focused on the actual criteria.
<b>Process</b>	Your supervisor may make comments based on the marking criteria. It may be the case that they have annotated the essay itself with general remarks in line with the assessment criteria so that you have an idea of the specific areas they are concerned with. Although supervisors can make suggestions for improvement, you must not expect them to edit your work.
<b>Criteria</b>	Specific support for the assessment criteria can be found in Chapter 7. You may wish to review this whole chapter in addition to any materials provided by your supervisor.
<b>Timeline</b>	Ideally, you should expect to have your draft back within two weeks of submission, although this will depend on your school's calendar and processes. You should aim to give yourself at least four weeks between the feedback on your first draft and final submission so that you have enough time to make meaningful improvements and changes. A structured time frame will ensure that you stay focused on this task and do not exceed the maximum recommended time for this work.

## The final meeting: Preparing for the viva voce



To: Supervisors

Subject: Final EE meeting

Dear supervisors,

This is the final formal requirement for extended essays, so please read the information provided carefully.

You should spend 20–30 minutes conducting this concluding interview (viva voce).

A series of questions have already been provided for you (in the email sent before the third meeting), but feel free to ask any other related questions you feel appropriate. The idea is to get the students talking about their EEs: the process, the methods followed, the struggles, frustrations and challenges encountered, any interesting discoveries and so on. It is also one way to ensure that the students have not plagiarized (as they should be able to speak about their EEs with confidence and not “umm” and “ah” when asked about specific sections or sources).

### Supervisor guidance: What the viva voce is not

The viva voce form is not an opportunity to voice frustrations regarding a student’s lack of engagement and poor work ethic. The focus should be on the process of writing the extended essay. Your comments should match accordingly. Do not include any comments about medical issues and special circumstances that may have affected performance, as these are handled separately by the IB DP coordinator.

#### Comments:

Your first line should mention the fact that, in your professional assessment, the work is the student’s own.

The rest of the information you provide will help the examiners with Criterion E: Reflection (worth 4 marks), so focus comments on that area.

Do mention how you feel the student has grown and developed in terms of both their knowledge and overall skills. Consider if they’ve become more critical or evaluative as a result of their extended essay, note down any exchanges you had with them where this was evident beyond the final essay itself.

Feel free to comment on any interesting approaches to the essay that the student was not able to embed in the essay proper (e.g., novel ways of carrying out the investigation), along with their overall work ethic and engagement with the topic.



## The three mandatory sessions

<p>1. <b>How long are these sessions?</b></p>	<p>As a whole, a supervisor should spend anything between three to five hours with you over the duration of the extended essay process.</p> <p>These hours can be divided into quick 5–10-minute catch-up sessions and longer 20–30-minute sessions for the three mandatory reflection sessions that will inform your RPF.</p>
<p>2. <b>Are the sessions recorded?</b></p>	<p>There is now an expectation that at least three sessions take place, after which you may wish to record notes on your reflections to date. These are usually broken down into:</p> <ol style="list-style-type: none"> <li>an introductory meeting</li> <li>an interim meeting halfway through the process (usually after you have completed your research and have begun, or are about to begin, some preliminary writing)</li> <li>a final meeting that is part of the concluding interview (viva voce).</li> </ol> <p>The supervisor must sign and date the RPF.</p>
<p>3. <b>Are these sessions assessed?</b></p>	<p>The sessions themselves are not assessed but they will help to highlight your ability to reflect on the research process and your own development and growth in relation to it.</p> <p>Four marks are awarded (under Criterion E) for student reflection with a special emphasis on development and growth as a result of the research process. For more on this, see Chapter 7, pages 143–151.</p> <p>The supervisory sessions should aim to help you maximize the marks for this criterion by supporting you with things such as planning and structure and appropriate methodologies and approaches. The sessions should also encourage you to reflect on any research challenges encountered and possible solutions found, so that you grow and develop your research skills and can see applications for these elsewhere in your IB course and wider life.</p>

## Guidance for mandatory sessions

The following table is intended as a guide for you and your supervisor with regards to the three mandatory sessions. It will be useful to be aware of the types of things you should be preparing for in anticipation of the mandatory and documented meetings with your supervisor.

Examples of guiding questions	
<p><b>Session 1</b></p> <ul style="list-style-type: none"> <li>Initial ideas</li> <li>Topics</li> <li>Possible approaches</li> <li>Research question(s)</li> <li>Ethical considerations</li> </ul>	<ol style="list-style-type: none"> <li>Why have you chosen this topic/event/figure/case study as the focus of your research question?</li> <li>How is your question appropriate to the chosen subject?</li> <li>Why is this question worthy of investigation?</li> <li>Have you considered whether to pursue a primary or secondary research approach to respond to your question? Why is that the best approach?</li> <li>What contradictions, concerns or controversies are you already aware of in relation to your research question?</li> <li>Is there enough material readily available to support such an essay?</li> <li>What sources do you think may be useful and why (e.g., letters, newspapers, interviews, histories)?</li> <li>What may be some problems in arriving at a conclusion to your EE (e.g., reliability of sources or bias of accounts)?</li> <li>Are there any ethical considerations you need to take into account? Will these affect your research and how do you propose to overcome them?</li> </ol>



<p><b>Session 2</b></p> <ul style="list-style-type: none"> <li>• Follow-up</li> <li>• Research findings</li> <li>• Reading completed (and pending)</li> <li>• Organization and structure</li> <li>• Next-step planning</li> </ul>	<ol style="list-style-type: none"> <li>1. Have you made any adjustments to your initial research question since the first meeting? Why?</li> <li>2. Which sources have you used thus far in terms of your research?</li> <li>3. What perspectives have you been made aware of through your reading?</li> <li>4. Is there a discernible pattern or approach that dominates?</li> <li>5. What aspects of your reading have surprised, impressed, shocked or challenged you?</li> <li>6. What material have you rejected from your list of sources? Why?</li> <li>7. What areas do you feel need further exploration?</li> <li>8. Are there aspects of the material you are struggling with?</li> <li>9. Have you had any issues with your time management? How have you addressed this?</li> <li>10. What ideas do you have with regards to the layout of your extended essay (chapters, headings and so forth)?</li> <li>11. What next steps do you consider vital for the completion of your extended essay?</li> </ol>
<p><b>Session 3</b></p> <ul style="list-style-type: none"> <li>• Viva voce</li> <li>• Conclusions</li> <li>• Writing process</li> <li>• Challenges or setbacks</li> <li>• Academic integrity</li> </ul>	<ol style="list-style-type: none"> <li>1. What conclusions did you arrive at during the research and writing of your EE? Were there any surprises?</li> <li>2. What would you consider to be the most (and least) rewarding aspect of your research and writing process?</li> <li>3. What figures or illustrations did you include? Why did you choose those?</li> <li>4. Which source contradicted the general ideas of your research? In what way specifically did the source contradict them? Did you include it? Why? Why not?</li> <li>5. Which of your sources did you find to be the most helpful? Why?</li> <li>6. Questions pertaining to the meaning of sections of your work, the sources used, why they were used and their relevance (e.g., "Why did you select this source to support your points?" or "What do you think person A meant when they said ...?").</li> <li>7. What have you learned about your topic from researching and writing about it?</li> <li>8. What challenges did you encounter when researching and writing the EE? How did you go about overcoming them?</li> <li>9. What unanswered question(s) are you left with?</li> <li>10. How successful do you believe you've been in answering your research question?</li> <li>11. Is there anything that contributed to the EE that is not immediately evident in the essay itself (such as museum visits and email exchanges with participants, scientists and authors)?</li> <li>12. How do you feel you've developed both academically and in terms of your skills after going through the extended essay process?</li> <li>13. Where else do you feel you could apply some of the skills you have learned during this process?</li> <li>14. In what ways has the process impacted you as a learner?</li> </ol>

## The Extended Essay Café

### The aim

Running an EE Café is an excellent way for a school's coordinators and supervisors to ensure that all students submitting an extended essay have made suitable progress with the research (and any initial writing) phase of their essays. An EE Café of this format usually takes place before the end of the first year of the IB Diploma Programme. As such, it is perfectly situated to act as a check on your progress while also being an opportunity to help you create a road map for what needs to be done during the holiday period. It is also an opportunity for your school to identify whether you are behind schedule, so as to implement necessary remedial strategies and support.

By making it a formal occasion, as opposed to a one-on-one supervisory session, the EE Café should help stimulate your interest and compel you to focus your efforts before the end-of-year break. Inviting parents along too helps demystify the entire EE process for them and encourages this key group of people to offer additional insights, support, resources and advice to you during the extended essay process while celebrating and recognizing your achievements to date.

### Format

You will be given five minutes to present your most up-to-date findings and research related to your extended essay before a panel of specialist judges (such as coordinators and experienced supervisors), your peers and parents.

You will be required to inform the panel of the following:

1. Subject and research question
2. Background (e.g., what your extended essay is about, the key issues addressed)
3. Research conducted thus far and planned research for the summer (such as a summary of one or two chapters or sections)
4. Possible chapter headings (or a working outline of the final contents page)
5. Problems encountered and solutions found (where applicable)
6. Bibliography (accurately referenced sources, using an agreed upon style, for example, MLA or APA)
7. Reflection.

### Requirements

- You must have a visual presentation (such as Microsoft PowerPoint™ or Prezi™) that includes the above points. The panel will be looking to see that you have a workable research question, a draft essay plan and a properly formulated bibliography.
- You are free to present a summation of the content of your extended essay in whichever manner you choose (such as in continuous prose, in bullet point format, by reading an excerpt of your extended essay or a combination of these).
- You must bring the completed Form 4 (page 90) with all relevant details.

Timelines for the EE Café can be found in the exemplar calendar on pages 84–85.

### Note

Schools with large numbers of students may have multiple sessions running, each with its own panel and allocation of students.

### Supervisor guidance: Supervisors and the EE Café

Supervisors are invited to attend the session(s), where they can listen to their student's presentation and ask questions. This session can help inform the content of a follow-up meeting between the student and supervisor which contributes to the completion of Form 4 (page 90). Keep in mind that the reflection section may not be fully developed yet, but a student recognizing their shortcomings and failings is good reflective practice and shows growth (e.g., "I need to work on my time management" or "I realized my planning is not the most organized and I'm working on this by ...").

## Supervisor checklist

### Research question:

- Does the question sound workable?
- Is it narrow enough to be completed in 4,000 words?
- Does it have a clear focus?
- Are there an adequate number of secondary sources available?

### Structure:

- Are there chapter headings that indicate the organization of the essay into sections?
- Are chapters relevant and of a reasonable number? Too many may mean each will be too brief to be meaningful.

### Content:

- Has the chapter or aspect they have elaborated on convinced you they know something about their topic or are able to develop a line of argument?
- Does the presentation tell you enough about the proposed content? Background information can be included but should not be the focus of the entire presentation.

### Bibliography:

- Is the bibliography arranged alphabetically and are all details correct, such as spelling, capitals for titles, publication date and location, author?
- If you know about the topic then add anything about relevance or quality of sources:  


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### Plans:

- Does the student have a workable plan for the summer?
- Add anything to this if you feel the student's work to date is vague or lacks direction:  


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### Reflection:

- What has the student learned so far?  


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- How have they developed in terms of skills and overall understanding?  


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## Exemplar EE Café presentation

Below is an exemplar EE Café presentation for a history extended essay.

1

# Rapa Nui (Easter Island)

By [Student Name DD/MM/YYYY]



**Cover:** Introductory slide listing your name and a summative heading related to your research question.

2

## Research question



**To what extent was the collapse of the Rapa Nui (Easter Island) society caused by environmental factors?**

**Research question:** Explicitly state your research question so the panel knows what your essay is going to be about. This should be in the form of a question.

3

## Background

### What happened on Rapa Nui (Easter Island)?

- By 1350 CE Rapa Nui civilization seems to have reached its peak with a population estimated to be around 3,000–6,000.
- In the centuries following, the population of Rapa Nui experienced a large decrease, the abandonment of moai construction and the almost complete disappearance of Rapa Nui culture.
- The dominant theory explaining this collapse is that it was due to environmental factors caused by the Rapa Nui people.
- This is currently contested by modern research into the spread of disease and cultural displacement caused by the arrival of Europeans.



**Background:** Provide some background or context to help your audience understand your question better. This could take the form of quick facts but should ideally link back to the main research question.

4

## Table of contents

Introduction

Background

Chapter 1: Environmental exploitation

1.1 Deforestation

1.2 Agricultural practices

Chapter 2: The arrival of the Europeans

2.1 Diseases

2.2 Cultural erosion and conflict

Chapter 3: Domestic factors

3.1 Internecine conflict

Conclusion

Bibliography



**Table of contents:** Present your proposed table of contents, ideally in the order your essay's argument is going to follow. It could also take the form of a mind map. The key point here is to indicate to the viewers what areas (or sub-topics) you are planning on covering to answer your research question.

5

## Chapter 1

- One of the principal considerations explaining the collapse of Rapa Nui society has long been held to be an extensive deforestation of the island at the hands of the Rapa Nui.
- Ethnographic studies of the Rapa Nui highlight how these trees were used to make fishing gear and to build houses and canoes (Orliac, 2000, p. 215)
- The building of the moai statues is also posited as a main causal factor due to the copious forest resources required in their construction, transport and erection.
- However, this view is contested by historians Paul Cooper, Terry Hunt and Carl Lipo.



### Chapter samples:

Select one or two of the chapter headings (or strands of your mind map) to elaborate upon in more detail. Here you should be trying to convince your audience that you've done the requisite research and know your stuff.

6

## Bibliography

- Cooper, Paul M.M. (5 June 2020). *Episode 6: Easter Island - Where Giants Walked*. <https://www.youtube.com/watch?v=7j08gxUcBgc>
- Diamond, J. (2005). *Collapse: How Societies Choose to Fail or Succeed*. New York: Viking.
- Fischer, S. R. (2005). *Island at the End of the World: The Turbulent History of Easter Island*. London: Reaktion Books.
- Hunt, T. L. (2006, September). "Rethinking the Fall of Easter Island". *American Scientist*, (94)5, 412. 10.1511/2006.61.412
- Orliac, C. (2000). "The Woody Vegetation of Easter Island Between the Early 14th and the Mid-17th Centuries AD". In C. M. Stevenson and W. S. Ayres, *Easter Island Archaeology: Research on Early Rapanui Culture* (pp. 211–220). Rapa Nui: Easter Island Foundation.
- Ruiz-Tagle, E. (2005). *Easter Island: The First Three Expeditions*. Rapa Nui: Museum Store.

### Bibliography:

Show your bibliography (to date) using an approved referencing style (e.g., APA or MLA). The key is to show your audience that you know how to correctly reference source material.

7

## Summer plans

- Continue to consolidate my plan for each chapter with sufficient evidence.
- Read through Ruiz-Tagle's book *Easter Island: The First Three Expeditions* to identify the role played by Europeans.
- Complete my source analysis of Diamond's work which reiterates the orthodox interpretation of Rapa Nui's collapse.
- Write my first draft.



**Plans:** Provide an outline of your plans during the holidays between the first year of your IB studies and the start of your second year.

8

## Problems

- The primary source material is largely European in origin and heavily biased. I resolved this in part by reading modern Rapa Nui and other ethnographic studies to balance out the accounts.
- I had to acknowledge the lack of primary source material, which is a possible limitation for a history EE.



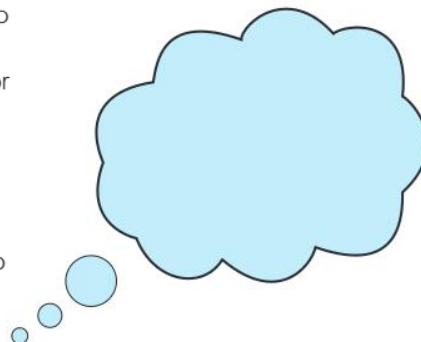
**Problems:** Highlight any problems you encountered at all stages of the EE process, be they defining your research question, locating appropriate sources or any issues with your methods or experimental approach. The panel or audience may be able to offer support here.



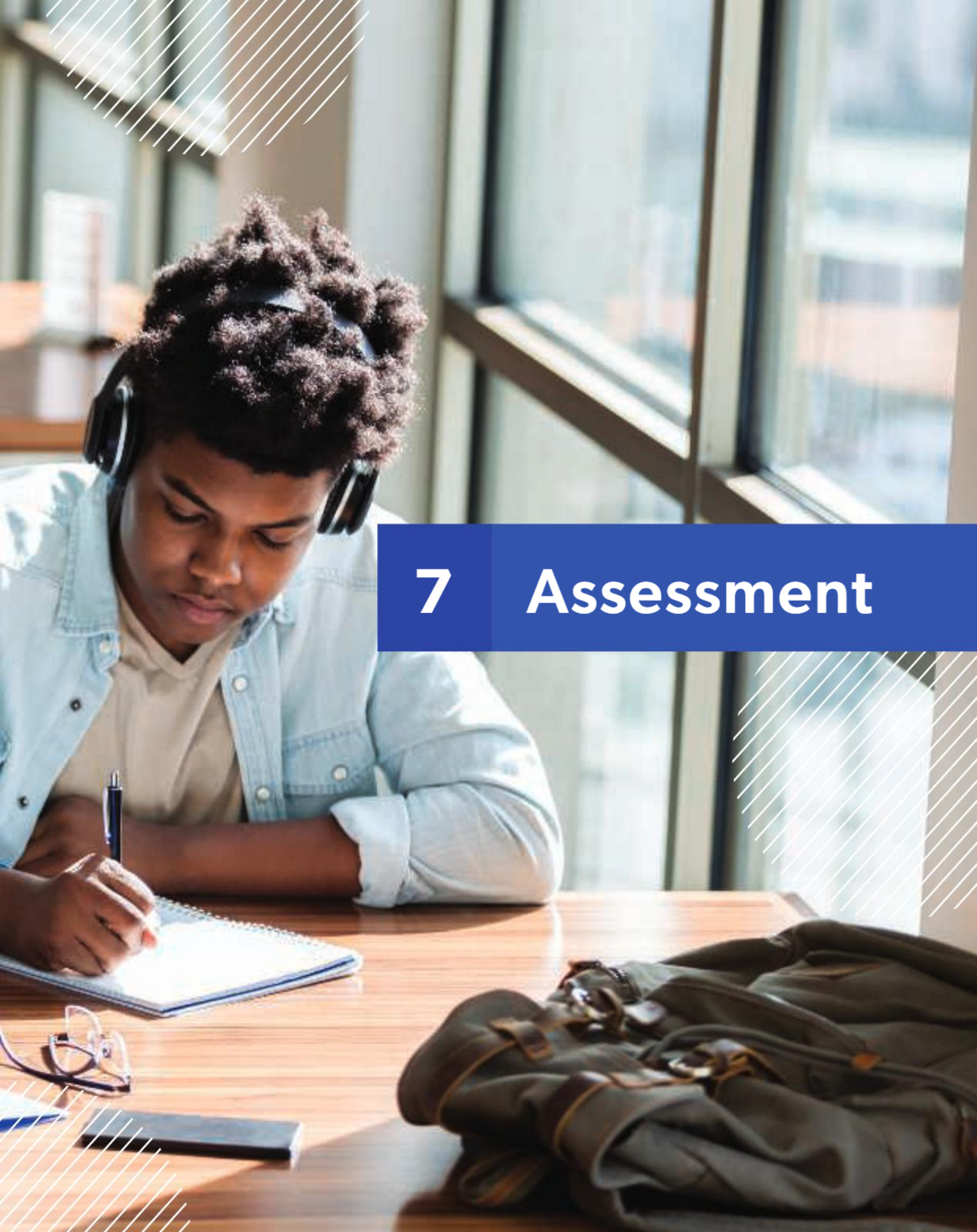
9

## Reflection

- My time management needs to improve as I took a lot longer to start the process due to poor planning of my time.
- My organizational skills have certainly improved as I found using a table on Microsoft OneNote™ very useful to keep track of my reading and notes.
- I have learned to question my initial assumptions, as I too thought initially the environment was the main cause of the island's collapse.



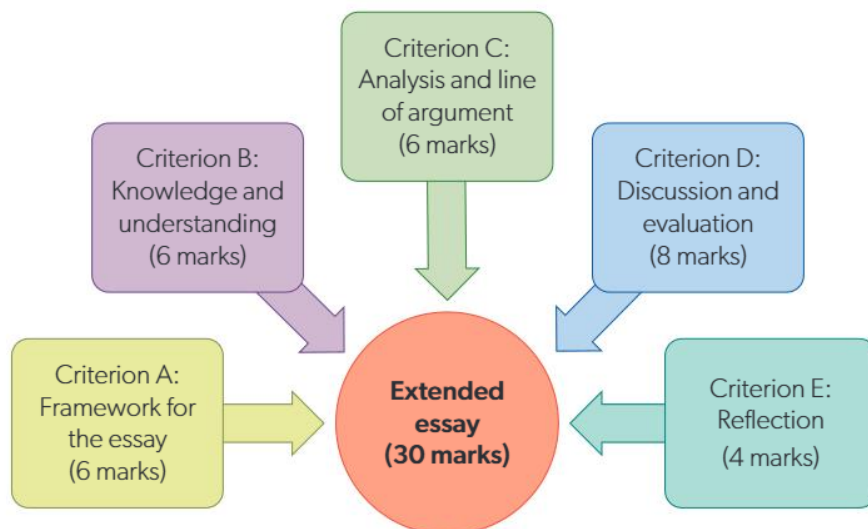
**Reflection:** In keeping with the IB's focus on reflection, it is important for you to pause and evaluate your development so far (e.g., skills gained or information learned). This is the time to mention any shortcomings or failings you've identified in your approach as this is the best type of reflective practice. Be honest and brave!



## 7 Assessment

## The assessment criteria

From September 2024, there are five criteria against which all extended essays will be assessed (for first assessment in 2026):



This chapter is focused on how to navigate the assessment criteria and maximize the marks awarded. It is useful to bear in mind that if the essay does not meet the criteria, then it cannot access the full marks. The criteria act as the goal posts, so it is crucial that you (and your supervisor) understand what they ask of you and how to go about ensuring you meet them.

### Tip

**Golden rule:** Know the criteria!

## The strands

The IB has set out a series of strands that act as the core focus of each criterion. In order to attain the highest grades possible, you must aim to address all of these. Below is a table of the key strands per criteria.

Criterion	Strands
A. Framework for the essay	<ul style="list-style-type: none"> <li>• Research question</li> <li>• Research methods</li> <li>• Structure</li> </ul>
B. Knowledge and understanding	<ul style="list-style-type: none"> <li>• Knowledge</li> <li>• Understanding—terminology</li> <li>• Understanding—concepts</li> </ul>
C. Analysis and line of argument	<ul style="list-style-type: none"> <li>• Analysis</li> <li>• Line of argument</li> </ul>
D. Discussion and evaluation	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Evaluation</li> </ul>
E. Reflection	<ul style="list-style-type: none"> <li>• Evaluative</li> <li>• Growth</li> </ul>



Each criterion will be elaborated upon in the following section with suggested approaches, useful tips and explanations relating to the strands offered across a wide range of IB subjects.

## Criterion A: Framework for the essay (6 marks)

- Key strands:**
- Research question
  - Research methods
  - Structure

### Choice of topic

Alongside focusing on the key strands for this criterion, you must make sure that the topic of your extended essay is clearly relevant to the subject it is registered under by your school's coordinator. For example, an extended essay on the topic of the trade disputes between China and the USA between 2019 and 2023 would be relevant to economics, provided that you analyse it through that subject's lens and methodological tools (for example, the impact government macroeconomic policies relating to the semiconductor industry had on the economic development of California). Alternatively, your topic might be global politics or even history, if you focused on the impact of the USA–China trade dispute on international and national security.

#### Tip

With topics that don't seem to fit within a particular subject, you should be very clear how your mode of analysis and approach squarely fits the designated subject you wish to register the essay for. This will help direct an examiner to making the link themselves and thus not penalise you for a topic that is irrelevant to the registered subject.

Care must be taken to ensure that topics that straddle multiple disciplines are clearly approached and analysed from the perspective of the registered subject. For instance, if you plan to write an extended essay in language B and choose to focus on a film, you must explore that film as a cultural artefact rather than through a film analysis, as would be the approach in a film extended essay.

For interdisciplinary essays, the same rule applies, so be careful that the two subjects you select perfectly fit the topic you plan to investigate. Of course, with interdisciplinary essays you have to also ensure the overall topic can be analysed through the lens of the two chosen subjects. For example, if you chose to write about the growth of artificial intelligence in the workplace, you would need to make it clear how such a topic fits both subjects (for example, business and digital society).

### Research question

The research question is, unsurprisingly, one of the key elements of a strong extended essay. A good research question is one that:

- focuses your investigation on something that is both worthy and workable (i.e., there are sufficient sources available to use)
- compels a high degree of research, evaluation and analysis (avoiding descriptive or narrative-style writing)
- is sharply focused on a topic that can be covered within 4,000 words (avoiding multi-pronged approaches that would make the investigation too broad)
- leads to a conclusion that is not immediately obvious.

#### Tip

Questions that are largely of the "yes/no" variety, or that lead to a simple conclusion, will not meet these criteria.



Usually questions that begin with “who” or “what” lead to poor investigations, as seen in the examples below:

#### History extended essay on the Munich Agreement (1938)

**Research question:** What did Chamberlain hope to achieve from the Munich Agreement in 1938?

**Conclusion:** He sought to avoid war with Nazi Germany.

#### Visual arts extended essay on H. R. Giger’s work

**Research question:** Which techniques did H. R. Giger find more emblematic for his work?

**Conclusion:** Airbrush

#### Economics extended essay on the public listing of a company

**Research question:** Who stands to benefit the most from the public listing of Company A?

**Conclusion:** The shareholders

A good research question will ensure you are in contention for the very highest marks as almost every part of the extended essay (such as the line of argument and the sources) hinges on the strength of the question itself, so do take the time to ensure your question fits all the conditions outlined earlier.

## Methodology

Methodology effectively refers to two things: approach and methods.

### Approach

Your approach is the overall strategy that you will follow to answer your question.

Consider this to mean the overall structure of your extended essay—that is to say, the elements, factors, opinions or theories that are relevant to answering your question. These indicate the overall strategy and lens through which the question will be explored.

### Methods

Your methods are the specific tools, processes, experiments and techniques that you will use to answer your question.

Consider this to mean the specific means through which you will conduct your investigation. The methods you choose to use will vary from subject to subject although there are some basic expectations that subjects have when it comes to appropriate methods. For example, literary subjects may expect a close reading of texts while the sciences may have an expectation that some kind of experiment is conducted.

For more on how to devise good research questions see Chapter 2, page 21.

### Tip

For instance, in the EE Café example in Chapter 6, pages 101–105, the student chose to answer the question about the collapse of Rapa Nui (Easter Island) by exploring environmental factors, the arrival of Europeans and domestic factors, which they included in their table of contents (with accompanying subheadings).

The student may have chosen to explore environmental factors as part of their overall strategy but the way they investigated this, and the other factors, was by analysing the works of historians such as Cooper, Diamond and Fischer.

In all cases, it is vital that you explain (preferably in your introduction) why you chose this method and/or why it was the best fit in terms of answering your question. Below are a few examples to illustrate the types of things you could say in order to justify the choice of method(s).

Subject	Method	Why?
Chemistry	Titration	It is considered the industry standard when trying to evaluate ...
Business	SWOT analysis	It best allows for an analysis of competitive disadvantages that hold Company A back.
History	Historiography	Historians A, B and C were used as they represent the orthodox interpretation of the question, which this essay seeks to contest.
Digital society	Survey	It allows for quantifiable statistics on end-user utilization of App A which can be assessed against literature on the topic.

## Structure

This strand refers to both subject-specific structural conventions and the overall structure of the essay itself.

### Subject-specific structural conventions

Keep in mind that some subjects have a preference for how they present information or display data. For instance, a visual arts or film essay may require the inclusion of figures or images (such as close-ups or screenshots) that will need to be captioned correctly, while a computer science essay requires the correct deployment of strings of code. Likewise, a geography or science essay may require the use of maps or tables to present fieldwork or experimental data, while a mathematics essay may require the full presentation of your working out of particular equations.

In all instances, ensure the way you present your data fits with how you've seen data presented in that subject.

### The overall structure

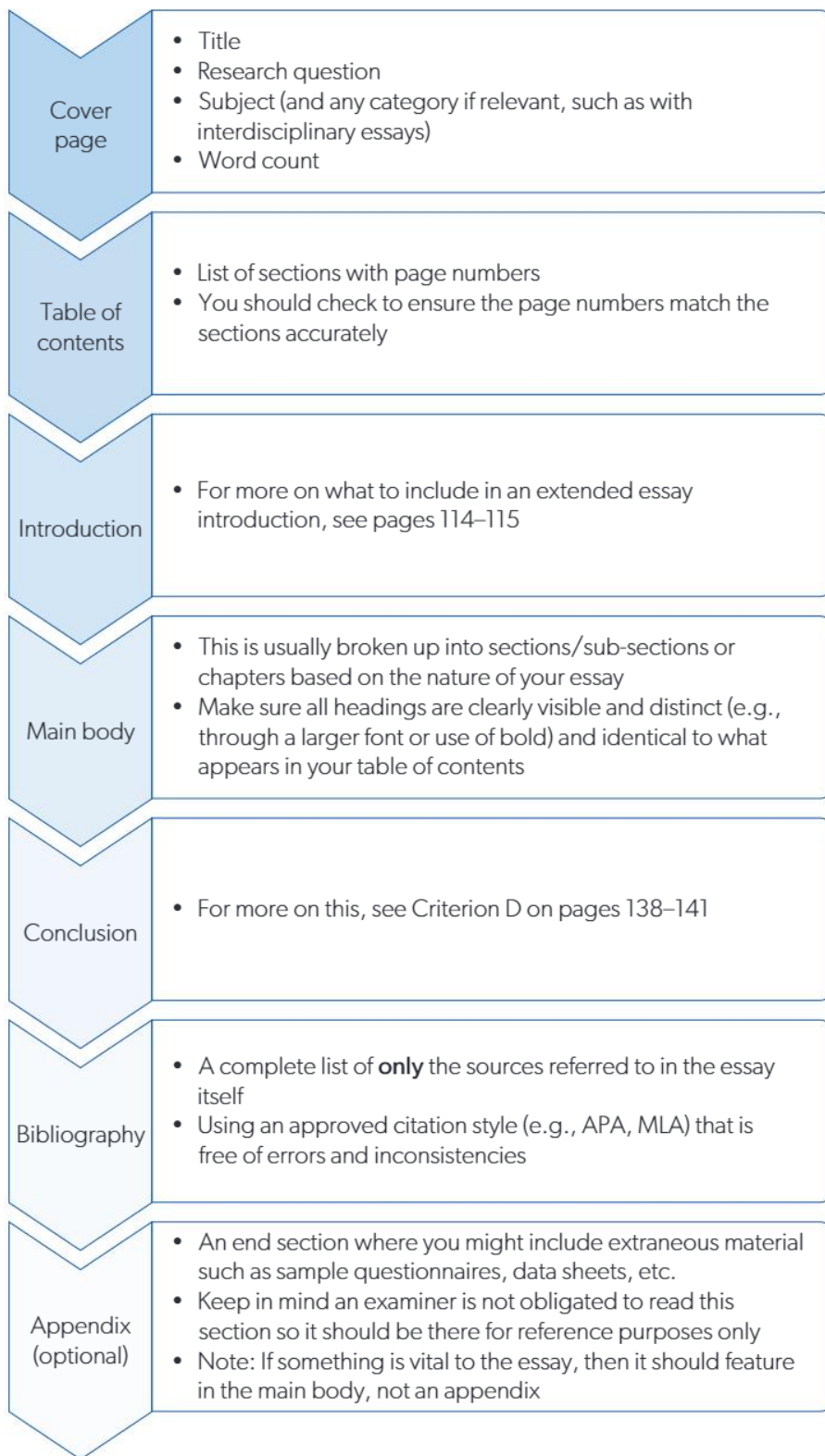
It is important to bear in mind that the extended essay is a formal piece of academic writing and as such must be presented using the agreed-upon conventions of independently written research papers.

The following sections will guide you through each structural requirement with a checklist included at the end for your use.

### Tip

A useful trick is to explore how textbooks or journal publications in your chosen subject present their findings and try to emulate that approach.

At a very basic level, all essays should adhere to the following structure:



## Cover page (or title page)

Consider your cover page like the front of a book. It should bear some key information pertaining to your extended essay in line with the IB's expectations. It should include the following:

### a. Student code

This is an alphanumeric code that your IB DP coordinator will issue to you at some point in the programme.

### b. Title (optional)

An optional extra you may wish to include is a brief heading giving a summative description of what the essay is about. The best way to do this is to convert your research question into a title that captures the key focus of the essay.

For example:

**Research question:** In what ways does Kiran Desai express her attitudes to the themes of power and privilege in her work *The Inheritance of Loss*?

**Title:** Desai's attitudes to power and privilege in *The Inheritance of Loss*

### Note

The research question often acts as the title, so this step is optional.

### c. Research question

When writing your research question there are a few things to consider:

1. Ensure it is the same question that appears in other sections of your essay (for example, the introduction).
2. Ensure it is the question being answered in the conclusion (as opposed to a variant of it).
3. Ensure the spelling is correct and the grammar accurate (and the question ends with a question mark).

### d. Subject(s) and framework

Ensure you've specified which subject the essay relates to for single subject extended essays and the two subjects it relates to for interdisciplinary ones.

You may wish to also include a subcategory for language B essays to indicate which area you are focusing on (i.e., language, literature or culture).

**Subject:** English B, culture

For interdisciplinary essays, alongside your two chosen subjects you should also include the framework your essay belongs under (from the five available):

1. Power, equality, justice
2. Culture, identity, expression
3. Movement, time, space
4. Sustainability, development, change
5. Evidence, measurement, innovation

### Note

**Do not include:** your name, your school's name, your candidate number or any identifying pieces of information on the title page (or any other section of the essay such as headers or footers).

As the work is uploaded, the IB tags the work to your digital profile, so these details are not required on the essay itself. What's more, in order to maintain the integrity of this externally assessed work, the IB does not disclose your name to examiners, so it is essential you do not include any identifying marks within the essay itself.



### e. Word count

All extended essays are digitally uploaded for assessment. This means the word count can more easily be ascertained by examiners, so you must ensure that you accurately specify the exact number of words contained in your extended essay on the title page before uploading it for assessment.

For more detail on what counts as part of the total word count and what does not, see page 127.

### Table of contents

All extended essays must contain a table of contents placed after the cover page and before the introductory section of your essay.

The table of contents should contain a sequential list of all your essay's sections or chapters. Next to each section or chapter heading should be the page number where that section or chapter begins. These page numbers should be placed on the far right of the page as indicated in the example below:

Table of contents	
Introduction.....	1
Chapter 1: Pre-Islamic medicine .....	2
Chapter 2: The Quran and Islamic traditions of learning.....	6
2.1 Christian and Jewish influence .....	6
2.2 The occult.....	8
Chapter 3: Socio-political influences.....	9
3.1 Inherited Greek medical traditions and heritage.....	9
3.2 The role of the caliphs.....	11
3.3 Islamic advances.....	15
Chapter 4: Medical instruments.....	19
Conclusion.....	21
Bibliography.....	22

### Note

All extended essays should include a table of contents. Even in the case of language A extended essays, where the normal expectation is for continuous prose as opposed to sections (and sub-sections), a basic table of contents should be provided even if it simply has introduction, main body, conclusion and bibliography as its key sections.

Chapter or sections should use numbers or letters (for example, Chapter 2 or Section A)

If you use letters instead of numbers for your headings, the sub-chapters can be numbered using conventions such as i), ii), iii), iv) or A.1, A.2, A.3

Sub-chapters (or sections) are indented and numbered

Page numbers are aligned on the right-hand side of the page

### The introduction

The introduction to the essay is your best friend when it comes to Criterion A as it is the perfect place to outline how all of the strands for Criterion A (except structure) are going to be covered in the body of the essay itself. Therefore, it is advisable to write the introduction as a separate and clearly labelled section so that examiners can identify how you've gone about meeting the strands for Criterion A.

Although you can certainly create an outline of what your essay may include and look like contents-wise at the outset of the extended essay process, it is recommended that you write the introduction last, once the essay has taken shape.

For an exemplar introduction, see Chapter 5, page 72.

## What should the introduction include?

Include	Details
<b>Research question</b>	<p>As well as on the title page, it is advisable to explicitly refer to your research question in the introduction. Do not simply list it but blend it into the prose of your introduction (for example, “This paper seeks to explore the extent to which ...”).</p> <p>Ensure that the research question listed is exactly the same as the one that appears on the cover page and do not embellish it or alter its substantive parts.</p> <p>For more on how to devise good research questions see Chapter 2, pages 21–28.</p>
<b>Context</b>	<p>You should always situate your research question within any existing theories, approaches or evaluations that underpin your topic as a whole. For example:</p> <ul style="list-style-type: none"> <li>• Are there pre-existing interpretations of the text you’re writing about?</li> <li>• What pre-existing theories are there as to the cause of an event you’re investigating?</li> <li>• What conclusions do the major analytical tools or techniques related to your topic point to?</li> <li>• What alternative schools of thought have been applied to the analysis of the topic you have in mind (e.g., psychoanalytical or deconstructivism)?</li> <li>• Are there alternative methodological approaches to your question?</li> </ul>
<b>Line of argument</b>	<p>Include a phrase or two that outlines the key approach, factors, sections or aspects that you will explore. This is the place to cover the first part of the Criterion A strand “method” by outlining your overall approach or strategy that you will follow to answer the question.</p> <p>An easy way to do this is to convert the main body elements that appear in your table of contents into prose. For example, taking the EE Café question that appears in Chapter 6 (pages 101–105) about the collapse of Rapa Nui (Easter Island), you could write something like:</p> <p><i>“... this essay will seek to explore the environmental factors such as ... alongside the role played by the arrival of Europeans to assess which played a greater role in the collapse of Rapa Nui society.”</i></p> <p><b>Note:</b> The inclusion of a phrase or two such as this also helps with Criterion C: Analysis and line of argument. It signposts to the examiner what they can expect in terms of your overall argument and the way you plan to approach and develop it.</p>
<b>Methodology</b>	<p>Your introduction should offer an outline of the specific methods or tools that you will use to explore, analyse and evaluate your question so that the examiner is clear on how you will go about answering the research question.</p> <ul style="list-style-type: none"> <li>• Why was this method (or tool, technique) chosen?</li> <li>• What is it about this method that helps answer the question (e.g., greater reliability, repeatability, sample size, margin of error or industry standard)?</li> </ul> <p>For source-based essays:</p> <ul style="list-style-type: none"> <li>• Why were the sources chosen (e.g., they establish the traditional interpretative approaches that you will evaluate or challenge, offer diverse evaluative approaches or provide a new interpretative framework)?</li> <li>• How are you going to use or respond to their claims (e.g., challenge, affirm, prove or test)?</li> </ul>
<b>Worthiness</b>	<p>It is imperative that you mention why your question is worthy of investigation or why the reader should care about the potential conclusion(s).</p> <p>For a list of what is grounds for worthiness of investigation and what is not, see Chapter 5, page 71.</p>

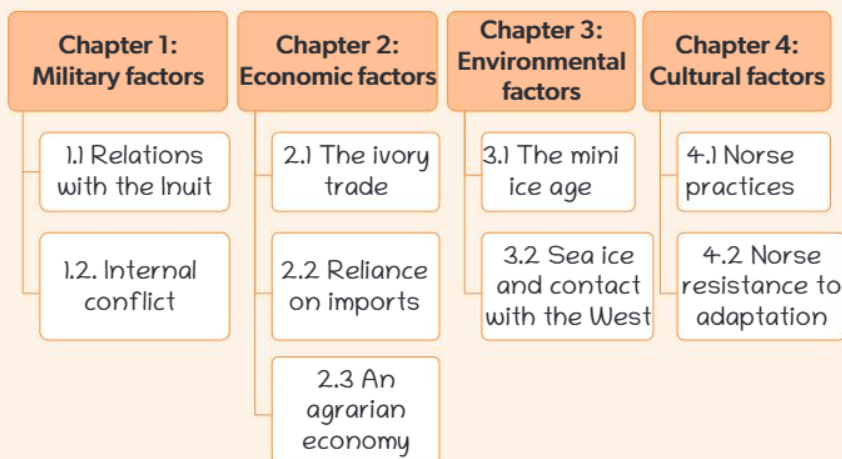
Avoid	Details
<b>Descriptive backgrounds</b>	<p>Avoid narrating the extensive background of your chosen topic as this is often either irrelevant or ends up being purely descriptive filler. Keep it to the point and relevant to the focus of your research question.</p> <p>Examples of poor introductions:</p> <ul style="list-style-type: none"> <li>• <b>History EE on Hitler's rise to power:</b> mentioning details relating to Hitler's childhood and upbringing</li> <li>• <b>English EE on representations of justice in Harper Lee's <i>To Kill a Mockingbird</i>:</b> offering biographical information on Harper Lee</li> <li>• <b>Biology EE on optical isomers:</b> offering an account of the historical development of research in this area, beginning with Louis Pasteur's pioneering work</li> </ul>
<b>Biography</b>	Biographical data, although useful under certain circumstances, is usually a poor substitute for proper research and analysis into a given topic. If anything, it often leads to a reductionist approach where the work of a given individual is summarized as an extension of their actual life. It has no place in the EE as a whole and, therefore, should be avoided in the introduction as well.
<b>Political or religious stance</b>	The introduction (and the whole EE) is no place to outline your personal political or religious agenda.
<b>Personal pronouns</b>	As the EE is intended to be an academic-style research paper, the use of personal pronouns such as "I" or "my" is best avoided.

## Main body

The main body of the essay can be (and is often) subdivided into subheadings or sections that help frame the overall line of argument and outline the key areas to be investigated in relation to your research question.

Below is an example of how an essay might be structured so that the main body includes clearly signposted and relevant sections that help build the overall argument. Another example can be found in Chapter 3, pages 55.

**Research question:** To what extent was Norse Greenland abandoned as a result of conflict with the Indigenous Inuit people?



An essay structured with the headings shown clearly signposts to the reader what areas will be covered. Together with a brief explanation in the introduction as to why each factor is relevant, you will have gone a long way towards covering the formal structural requirements of Criterion A as well as elements of Criterion C.

## Conclusion

All extended essays require a clear conclusion with which to wrap up the essay. As this component is largely related to Criterion D, please see pages 139–141 for more on how to write a good conclusion. It is important to note here under Criterion A that you should include one.

## Bibliography (referencing)

Referencing is a key skill that all IB (and university) students must master early on in order to produce work that meets accepted academic norms, while simultaneously avoiding issues relating to academic malpractice.

The provenance (origin) of any work that you use that is not of your own making or thought processes must be accurately referenced to acknowledge its source. It is a means by which you show respect to the work others have done in your chosen area or topic, while acting as a platform from which you can base your own ideas and develop your own lines of argument. Failure to do this could lead to missing out on a grade for the extended essay (or any IB assessment) and could jeopardize your chances of securing an IB qualification. This means that learning how to correctly reference is perhaps one of the most vital skills you will need to learn.

In some instances, your own work will also need to be cited if it is used as authoritative material (for example, a table of data based on an experiment you've conducted or fieldwork you completed for any other assessments or assignments).

## Referencing basics

1. **Reference:** It is important to make references to other people's work that you have used in your essay. Accurately referencing the work of others is mandatory for all IB assessments.

Karalis, V. (2012). *A History of Greek Cinema*. New York: Continuum.

2. **In-text citation:** An in-text citation usually includes the surname, year of publication and page number where applicable, though this will vary based on the style chosen (for example, MLA does not require the year for in-text citations).

... according to Karalis, Cacoyannis' film *A Matter of Dignity* indicates a move from stark realism to poetic realism (Karalis, 2012, p.76).

3. **Footnote:** Footnotes are indicated in-text by a superscript number.

... according to Karalis, Cacoyannis' film *A Matter of Dignity* indicates a move from stark realism to poetic realism.<sup>1</sup>

<sup>1</sup>Karalis, V. (2012). *A History of Greek Cinema*. New York: Continuum, p.76.

### Key terms

A **reference** makes acknowledgement of the origin of the work(s) that you've used.

An **in-text citation** is a reference to a work directly where it appears in your text referring to its basic source information.

A **footnote** is a text reference that appears in the footer at the bottom of each page.

A **citation style** is the arrangement of origin details in relation to an accepted citation system.



Footnotes can be used in place of in-text citations but if used in this manner they should only include the appropriate citation elements as per the style guide you are using (e.g. author's name, date, page number). Footnotes in this case do not count as part of the word count, but they will if you add additional explanatory notes. The same applies to using footnotes for additional analyses or background information as this would constitute words that should be part of the main body. Therefore, if something is worth additional exposition then it should be part of the main body and not included in the footnotes.

4. **Citation style:** There are many accepted citation styles, such as Oxford, Harvard, MLA, APA. Note the stylistic differences between them, which are mostly to do with the order of details or the use of abbreviations.

#### American Psychological Association (APA)

Karalis, V. (2012). *A history of Greek cinema*. Continuum.

#### Modern Languages Association (MLA)

Karalis, Vrasidas. *A History of Greek Cinema*. New York: Continuum, 2012.

Some subjects have a preference for a specific style over another (for example, literature and language essays prefer MLA whereas psychology-based essays prefer APA).

The IB does not prescribe a particular citation style, so you are free to choose one that works for you (or that is followed by your school as a whole). It is important that you use **one** and adhere to that particular style throughout your work (don't mix and match styles).

### To cite or not to cite?

The summative table below explains when you should cite and how to go about it.

Type of writing	Cite?	Details
Direct quotations (word-for-word copy) from texts or websites	Yes	Place the citation after the quotation or at the end of the sentence.
Paraphrasing or summarizing someone's work	Yes	Place the citation after the sentence or paragraph where the paraphrasing ends or immediately after the author's name if used in-text.
Images	Yes	Place the citation in a caption at the bottom of the image. This also applies to adapted images or specific details of images. In these instances, adding the words "adapted from ..." or "detail of ..." followed by the full citation details is necessary.
Dictionary definitions	Yes	As with direct quotations.

### Note

Bear in mind, you do not need to include both an in-text citation and a footnote. Choose one approach that works for you and stick with it throughout your extended essay.

### Tip

You can use Microsoft Word to automatically insert footnotes into a document (see pages 121–124). The bibliography feature will also allow you to embed the full reference as a footnote. Don't forget to include the page number(s) in the footnote (where available).

### Note

Nearly everything that was written or produced by someone else or that acts as an authoritative basis for points raised in your essay should be cited and properly referenced as explained above.



→ <b>Common expressions</b>	No	If using idioms or proverbial sayings there is no need to cite. However, if the word or phrase is coined by a particular individual as a means to communicate a key point in their work, then you must cite the source (e.g., if you encounter the word “Tsunamail” in an article on the internet about the overuse of workplace emails and you choose to use it in your essay, then you should acknowledge its original source).
<b>Common knowledge</b>	No	Commonly known pieces of information such as the fact that water is made of two molecules of hydrogen and a molecule of oxygen or the Pythagorean theorem do not require a citation. However, how many goals a football player scored or the distance between the Earth and the Sun will require a citation as these specific pieces of information would not be classified as common knowledge and thus require authoritative backing by way of a citation.
<b>Copyright-free material</b>	Yes	If material is labelled as “copyright-free” then anyone can use it without having to pay a royalty or licence fee. This does not mean, however, that you shouldn’t give reference details.
<b>Music and films</b>	Yes	Just like texts, all work not of your own making must be cited (including screenshots or sections of score).
<b>Letters</b>	Yes	Even personal letters a member of your family wrote would require a citation if they have been used in your essay.
<b>Figures such as maps, diagrams, illustrations, tables, graphs</b>	Yes	Even when you adapt them and add your own layers or work to them, you should acknowledge the base source. In all cases, you should label these in the caption as, for example, “Figure 1” or “Table 1” followed by the title and year of production. If you refer to these in the body of your essay (in-text) simply write “see Figure 1” (or whichever label you used in the caption).
<b>Your own figures such as maps, diagrams, illustrations, tables, graphs</b>	Yes	If you use data that you generated yourself for another assignment or assessment and intend to use it as an authoritative source upon which to base your analyses in the essay, then you should cite your own work though omitting your own name as per the IB’s guidelines on anonymity (e.g. Anonymous, “Oxygen Levels as a Percentage of Total Mass in Picnic Point Topsoil” [Table], 2015, Own Data). The raw data can be added in an appendix.
<b>Your own images</b>	Yes	As with images in general, you can cite your own if they are used as part of the essay. As with figures, ensure you remain anonymous in the citation.

## Tip

If you are in doubt as to whether or not some information you’ve included requires a citation, cite it anyway. You cannot be penalized for “over-citing”, but you can be penalized for not citing.

## Exemplar references

Below are examples of what a citation should look like for a variety of different source types. For convenience, all examples utilize the APA style (7th edition) unless otherwise specified.

### i. Books

#### Citation:

... that according to Holmes was not an accurate representation as “Basil’s golden legacy was relatively short lived” (Holmes, 2006).

#### Bibliography:

Holmes, C. (2006). *Basil II and the governance of empire (976–1025)*, Oxford Studies in Byzantium, 1st ed. Oxford University Press.

## ii. Websites

### Citation:

... it was not uncommon to see “overall infection rates of 15%” (Robson, 2008) among prisoners of war in the Far East ...

### Bibliography:

Robson, D., Welch, E., Beeching, N. J., & Gill, G. V. (2008, October 14). Consequences of captivity: Health effects of Far East imprisonment in World War II. Retrieved September 24, 2023, from *QJM: An International Journal of Medicine*, Oxford University Press: <http://qjmed.oxfordjournals.org/content/102/2/87>

## iii. Interviews

### Citation:

... children express difficulties in relation to “the rules of interaction such as initiating, maintaining and terminating the topic of conversations” (Pagomenakis, 2014) to the point where they ...

### Bibliography:

Pagomenakis, M. (2014, June 21). Social pragmatic interaction. (Lekanides, K., interviewer)

## iv. Images

All images used in an extended essay should appear as near as possible to where you first reference them in the text. The images should contain a fully referenced caption as seen below.

### APA style

Fig. 1: *Mona Lisa*



Da Vinci, L. (1503–1506). *Mona Lisa (La Gioconda)*. Musée du Louvre, Paris [oil painting].

### MLA style



Fig. 1: Da Vinci, Leonardo. *Mona Lisa (La Gioconda)*. Musée du Louvre, Paris, 1503–1506 [oil painting].

## Tip

The difference between APA and MLA is that the former requires the figure number and title to go above the image, whereas in MLA it all goes below the image.

If the image is from an internet source, include the date accessed (DD/MM/YYYY) and the URL.

### Citation:

... the fantastical background which acts as the backdrop for Da Vinci’s *Mona Lisa* (see Fig. 1) was reputed to have been inspired by ...

## Note

If using an image you created, the same rules apply. Ensure you include your name, title of image, year of production, type (e.g., photo, painting, etching) and location.

## Note

If using a table, “Figure 1” should be replaced with “Table 1” and so on otherwise the information to be included is the same.

## Note

Do not include works in your bibliography that are not cited in the main body of the essay or you may lose marks from Criterion A.

### Bibliography (APA style):

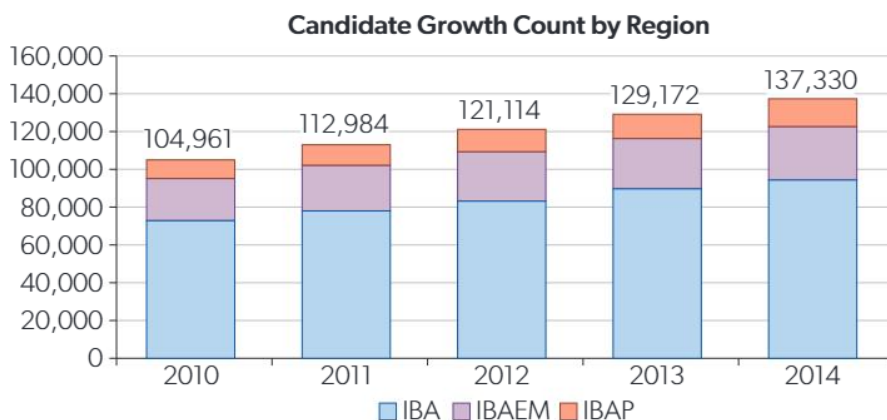
Da Vinci, L. (1503–1506). *Mona Lisa (La Gioconda)*. Musée du Louvre, Paris [oil painting].

### Bibliography (MLA style):

Da Vinci, Leonardo. *Mona Lisa (La Gioconda)*. Musée du Louvre. Paris, 1503–1506 [oil painting].

## v. Tables and graphs

Figure 1: IB Diploma Programme candidate growth by region



*The IB Diploma Statistical Bulletin*. May 2014 Examination Session. IBO. 2014 [Graph]. Retrieved September 21, 2015, from IBO: [www.ibo.org/contentassets/bc850970f4e54b87828f83c7976a4db6/may-2014-stats-bulletin.pdf](http://www.ibo.org/contentassets/bc850970f4e54b87828f83c7976a4db6/may-2014-stats-bulletin.pdf).

### Citation:

... policies that seem to have resulted in a steady growth of about 8,000 IB students per year from 2010 to 2014 (see Figure 1) ...

### Bibliography:

IBO. (2014). *The IB Diploma Statistical Bulletin*, May 2014 Examination Session. Retrieved September 21, 2015, from IBO: [www.ibo.org/contentassets/bc850970f4e54b87828f83c7976a4db6/may-2014-stats-bulletin.pdf](http://www.ibo.org/contentassets/bc850970f4e54b87828f83c7976a4db6/may-2014-stats-bulletin.pdf)

## vi. Bibliography (or works cited)

For the purposes of the extended essay, you are expected to include **only** works that you’ve actually cited in the body of the essay in your bibliography. In this sense, a more accurate way of looking at it is as “works cited” rather than an all-encompassing bibliography of all the works you read during your research.



As with citations, the style does not matter provided that you stick with one throughout. A useful tool to help you generate accurately formatted bibliographies (and citations) is available in Microsoft Word (see below).

As a minimum, the IB expects that your bibliography contains the following pieces of information:

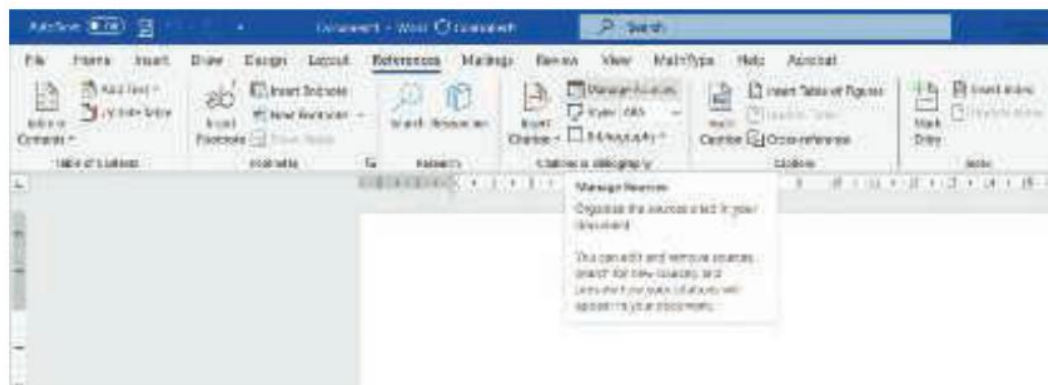
- author(s) name
- publication date
- title
- page numbers (for print material)
- date accessed (for online material).

## Referencing and software

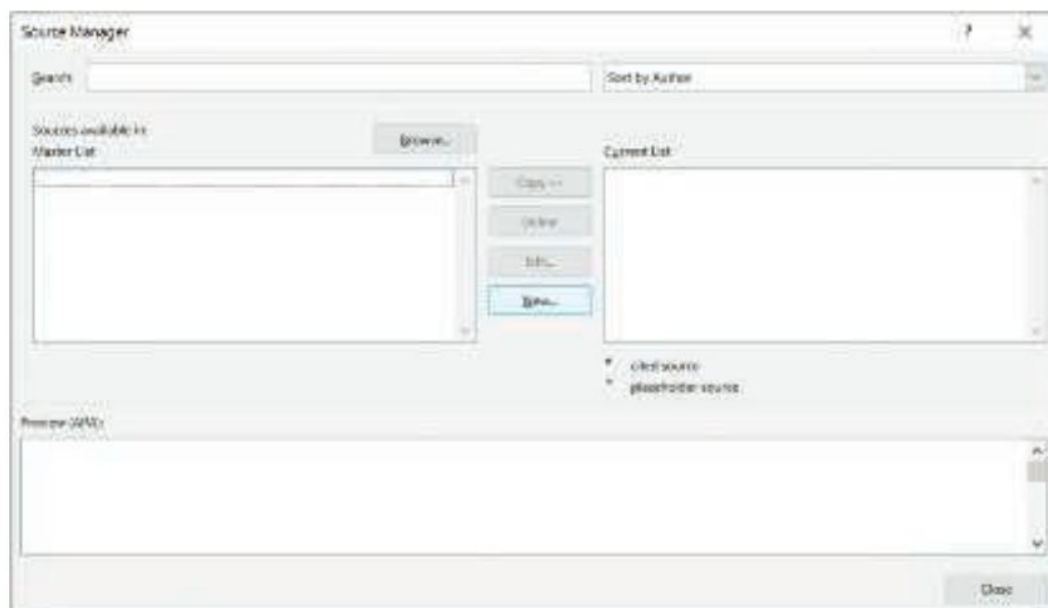
### Citations and bibliography: Microsoft Word for PC

#### Part 1: Adding sources

Step 1: Go to “References” and select “Manage Sources”.



Step 2: Select “New” to add a new source to your “library”.



#### Note

Instead of using Microsoft Word’s in-built citation creation tools, you could opt for one of the many online citation tools such as Zotero™, Mendeley™, EasyBib™ or similar. In all instances, it is important to ensure one consistent style is maintained for the final version of your extended essay’s bibliography and that you do not mix and match different styles or approaches. As such, it is recommended you use one tool and stick with it throughout your extended essay research and writing phase to avoid inconsistencies in citation styles.

Step 3: Choose the type of source you would like to add to your library. Then fill in the required areas.

The screenshot shows the 'Create Source' dialog box. The 'Type of Source' dropdown menu is open, displaying a list of options: Book, Book Section, Journal Article, Article in a Periodical, Conference Proceedings, and Report. 'Book' is currently selected. Other fields like Author, Title, Year, City, and Publisher are empty. The 'Language' is set to 'Default'. There are 'OK' and 'Cancel' buttons at the bottom right.

The screenshot shows the 'Create Source' dialog box with the following information filled in:
 

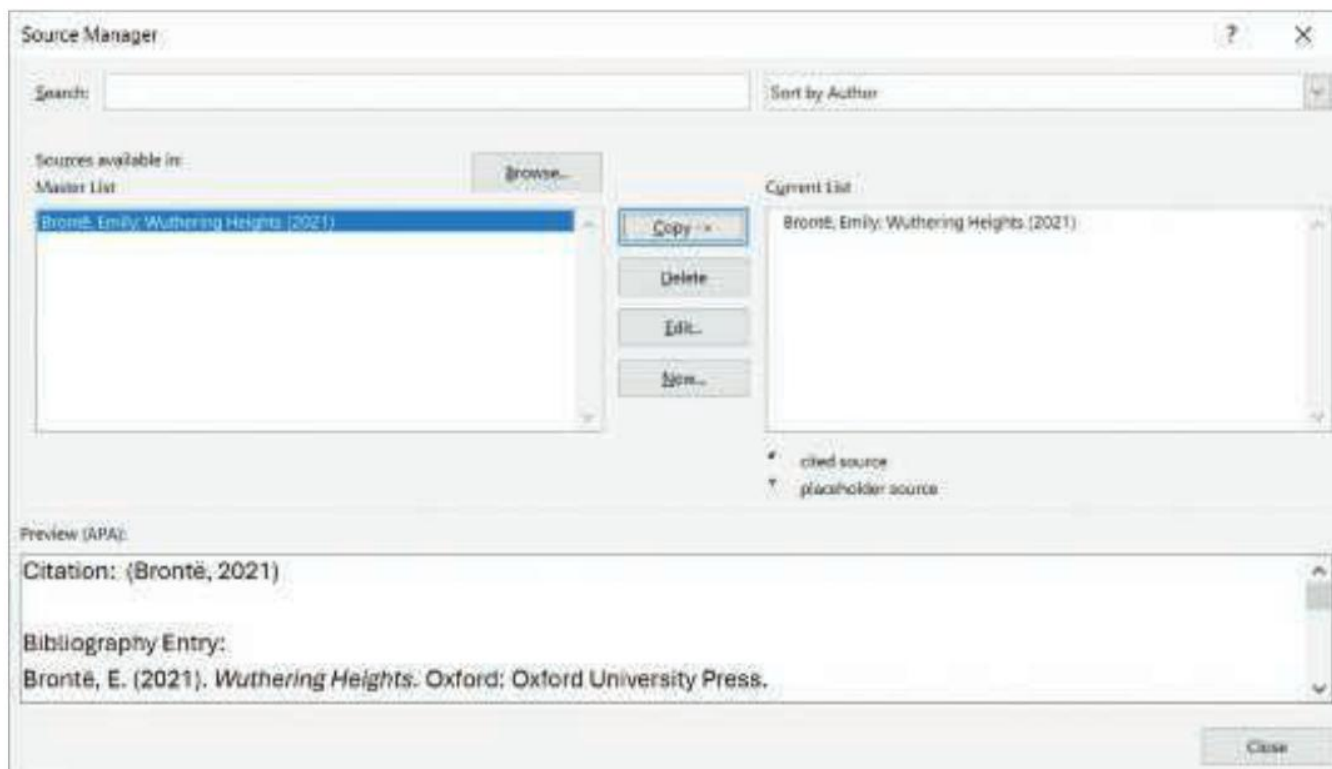
- Type of Source: Book
- Language: Default
- Author: Emily Brontë
- Corporate Author:
- Title: Wuthering Heights
- Year: 2021
- City: Oxford
- Publisher: Oxford University Press
- Tag name: Brontë/Wuthering

 The 'Show All Bibliography Fields' checkbox is unchecked. There are 'OK' and 'Cancel' buttons at the bottom right.

## Note

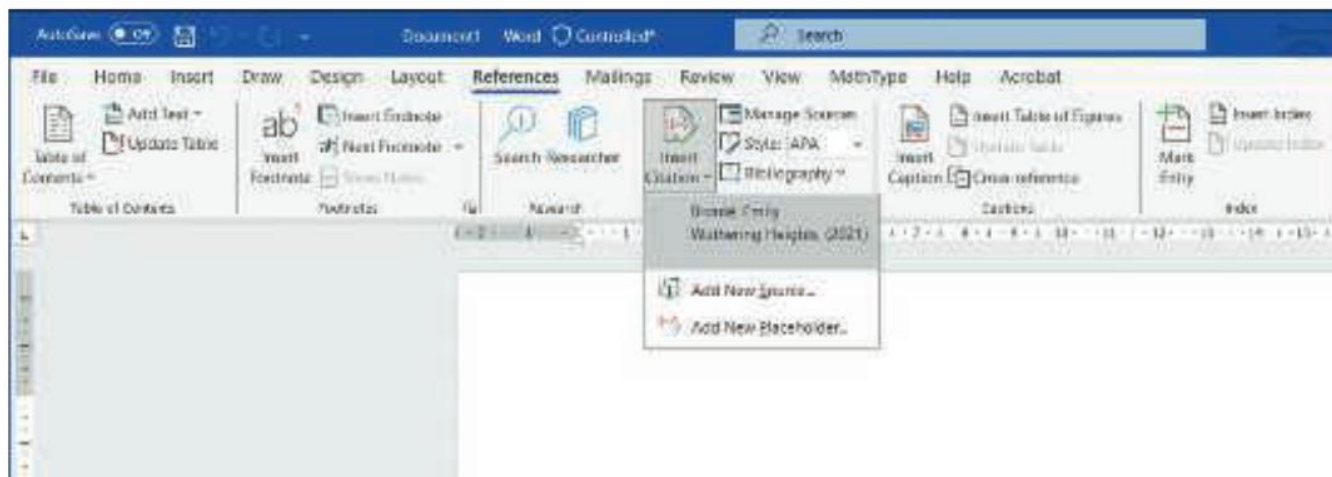
The process for adding citations and bibliographies on a Mac is similar to that for using Word on a PC. Click on "References" at the top, then choose "Citations" (instead of "Manage Sources" on a PC). Navigate to the cog button at bottom right and select "Citation Source Manager". The process is the same after this point. However, on a Mac, the citations remain in an open window rather than a drop-down list.

Step 4: Press "OK" and your source should now be added to your library. You must press "copy" to add your source to the "Current List" that you are using for a particular piece of work.



## Part 2: Adding citations

Once you have written your quote or added your image, you can add a citation by going to “References” and choosing “Insert Citation”. Then select the source that the quote came from.

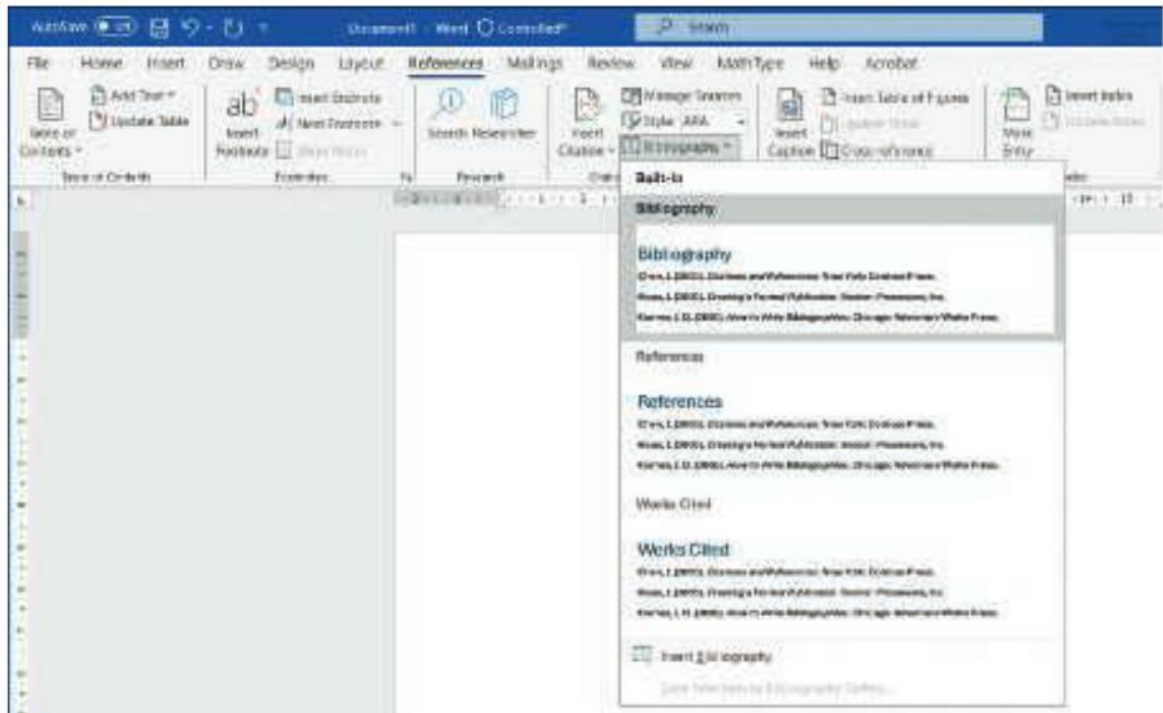


You should have now successfully inserted a citation!

For Catherine and Heathcliff, love and punishment will always intermingle. Theirs is a tormented love that would probably not do well under peaceful circumstances. They seem to thrive on drama. “She was much too fond of Heathcliff. The greatest punishment we could invent for her was to keep her separate from him: yet she got chided more than any of us on his account” (Brontë, 2021).

### Part 3: Adding a bibliography

Go to “References” and select “Bibliography”. In the drop-down menu, select “Bibliography”.



You should now have a bibliography. Do check to make sure there are no typos or errors.

#### Bibliography

Brontë, E. (2021). *Wuthering Heights*. Oxford University Press.





## Worksheet: Bibliography information

Below is a worksheet you can use to gather the relevant pieces of information for a variety of sources. Each of these should be included in your bibliography, where applicable. For how to organize the information, see Chapter 3, pages 52–53.

Books	
Author(s) name(s)	
Title	
Year of publication	
Location	
Publisher	
Website	
Author(s) or institution	
Web page (name of the page you cited the information from)	
Website (the web page's host)	
Date produced (YYYY minimum)	
Date accessed (DD/MM/YYYY)	
URL	
Interview	
Interviewee	
Title or topic (of interview)	
Interviewer	
Date (DD/MM/YYYY)	
Image or art	
Author/creator (if any)	
Title	
Institution (museum, gallery, website and so forth)	
City (where located)	
Publication date*	
Medium (type of work)*	
* If using MLA style you will require both the publication date and medium in addition to the other details.	
Graphs and tables	
Author(s) or institution	
Title	
Publication date (YYYY minimum)	
Date accessed (DD/MM/YYYY)	
Publication name (e.g., journal) or URL	





Film	
Title	
Director	
Year published	
Medium (e.g., DVD, streaming service)	
Studio*	
Performers*	

\* If using MLA style you should list the studio that made the film (e.g., Paramount Pictures) and you can also list the main performers, if relevant to your essay.

## Appendices

The appendix is an end section to an essay (or book) that can include almost anything that would be deemed helpful to a reader, though not absolutely essential to the essay's flow or line of argument.

As such, it usually includes items that would allow a reader to check up on things. This is any information not needed in the main body itself but that could act as a useful supplement or reference should the reader want to interrogate your data or approach further. Appendices might include, for example, raw data, extraneous graphs that contributed to your analyses but were not included in the essay itself, questionnaire templates, interview transcripts, complete musical scores or maps.

Keep in mind the IB does not mandate that an examiner read appendices, so do not include anything here that is vital to understanding the progress or argument of your essay. For instance, never write in your essay "See Appendix A for more" if by that "more" you mean content that is vital to the flow of the essay. If it's important, it should be in the essay itself.

The appendix is also not a place to put extra writing to which you direct a reader (such as definitions or background information). This will make it part of the word count which may result in examiners penalizing other parts of your essay due to the word limit constraint.

Anything in an appendix should be labelled, for example, "Appendix A", "Appendix B" or "Appendix 1", "Appendix 2". You should also include a heading after this explaining what the item is and any relevant bibliographical notes.

## Appendix A

### Chart indicating car types owned by gender in Bozeman

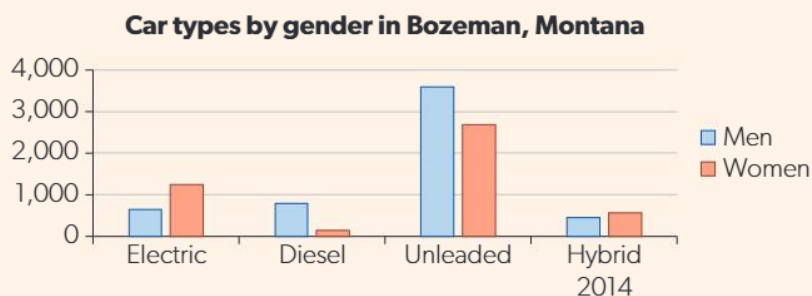


Table 1: Own data based on SurveyMonkey results.

## Word count

The absolute maximum number of words that an extended essay can be is 4,000 (plus a maximum of 500 words for the reflection).

It is vital that you do not exceed this upper word limit as it will not only lose you marks in Criterion A but across all criteria. Examiners will stop marking anything after the 4,000-word limit. This includes any analyses, arguments or concluding comments you've added, so do not exceed the word count.

### What is and isn't included in the word count?

Included	Not included
<ul style="list-style-type: none"> <li>• The introduction, all sections of the main body and the conclusion</li> <li>• All quoted material</li> <li>• Any footnotes (or endnotes) that are not citations or references. That is to say, any explanatory text, definitions or similarly descriptive content that is added in a footnote will count as part of the word count</li> <li>• Inclusion of multiple units of measurement. For example, if you write the temperature as 25°C and also place the measurement in Fahrenheit next to it—i.e., 25°C (77°F)—then this will count as two words</li> <li>• Anything in parentheses that is not a citation, such as dates, alternate spellings of names, definitions, descriptions and the like</li> <li>• Chapter headings (and subheadings).</li> </ul>	<ul style="list-style-type: none"> <li>• Table of contents</li> <li>• Maps, charts, diagrams, tables or illustrations including their accompanying caption or heading(s) (note, however, that if any of these contain commentary or analysis, that will be counted)</li> <li>• Equations, formulas and calculations</li> <li>• In-text parenthetical citations, e.g., (Rees, 2015)</li> <li>• The bibliography or “works cited” section</li> <li>• The reflection and progress form (which has a word count separate to the EE)</li> <li>• All material placed in the appendices.</li> </ul>

## Page numbers

Page numbers should be included on all pages of the extended essay, though convention dictates that a page number is not required on the title page and table of contents. You will not be penalized, however, if they do contain page numbers.

It does not matter which format you choose (for example, 1, 2, 3 ... Page 1, Page 2, Page 3 ...) or where the page numbers are located (for example, at the bottom right or in the centre). Ideally, aim to have the page numbers at the bottom of the page rather than the top.

Ensure the page numbers referred to in the table of contents match those in the body of the essay. You may lose marks if your table of contents states that Chapter 2 begins on page 5 when in fact it begins on page 6.

## Font

The IB does not specify which font to use; however, it is mandatory that the font chosen is easily readable. You should not use cursive, floral, cartoon or similar designer fonts that would make the script difficult to read.

Acceptable fonts	Unacceptable font examples
Aptos	<b>This font is not suitable.</b>
Arial	<i>This font is not suitable.</i>
Calibri	<i>This font is not suitable.</i>
Times New Roman	<b>This font is not suitable.</b>

**Font size:** You should aim to use font size 12pt. If you wish to emphasize a word or heading, do not use a larger font, instead use bold, italic or underline (or capitalization for headings).

## Spacing

Set the line spacing in your essay to 1.5. This allows examiners to insert annotations when marking it, while also making for a smoother reading experience.

## Criterion B: Knowledge and understanding (6 marks)

- Key strands:**
- Knowledge
  - Understanding—terminology
  - Understanding—concepts

This criterion evaluates how well you demonstrate content knowledge and understanding of the key issues, debates, theories and arguments that surround your chosen topic. It also measures how fluently and accurately you use the command terms (or terminology) and concepts of your chosen subject. Lastly, high marks in this criterion are awarded if the sources chosen are consistently relevant and support the development of your argument.



## Knowledge

This strand can be summarized as “do you know your topic?” More expansively, this means demonstrating knowledge of:

- **Context:** do you know what pre-existing debates, arguments or theories have already been put forward or exist?
- **Factors:** are you aware of which factors, explanations, opinions, theories or views help answer your question?
- **Content:** do you know the substantive content relating to your topic, i.e., the events, figures, dates, companies, artists, techniques, equations and so on? Are the sources chosen appropriate to your subject and topic?
- **Methods:** do you know how to use the necessary research tools, for example, how to read information in tables, how to conduct the experiment correctly or how to analyse the data in a spreadsheet?

## Understanding terminology

This strand effectively refers to how well you understand the subject-specific terminology (or command terms) and how accurately you use these in your writing. For instance, a business student writing about a company’s financials should know the difference between terms such as ROIC (Return on Invested Capital) and ROCE (Return on Capital Employed), as even though they may share some things in common they are not the same thing. Likewise, a computer science student writing about object-based programming should know what an object or a stack refers to, and be able to use these terms in their writing accurately and competently to relay their points.

Every subject has many such subject-specific terms that are used to refer to areas or aspects of knowledge specific to the discipline. It is your job to know these and use them accurately in your writing. Any misunderstanding or misuse of such terms can have a detrimental impact on your overall analysis, so do spend time mastering your understanding of the key terms you plan to use in your essay by reading up on these, watching explanatory videos or asking your teacher(s)/supervisor(s).

## Understanding concepts

This strand assesses how well you understand the broader concepts that underpin a particular subject. For example, in global politics, core concepts that the subject explores include power, sovereignty, legitimacy and globalization, while in biology the focus may be on function, form, interaction, interdependence, continuity and change.

In all cases, the inclusion and accurate use of these conceptual frameworks and terms in your writing helps demonstrate “your understanding of the context of the research and supports well-founded analysis” (IB *Extended essay guide*, 2024). For example, using the term “interdependence” in a biology EE on the impact of certain enzymes on the metabolic process may help showcase your understanding that the process itself relies on a complex network of interdependent and interacting chemical reactions, and changes to any aspect of this can have both predictable and unpredictable outcomes.

## Summary considerations

The table below summarizes key elements of the strands mentioned earlier, while also highlighting ancillary subject-specific requirements that should be considered when aiming for maximum marks for this criterion.

Subjects	Requirements	Avoid
<b>Language A and B: literature</b>	<ul style="list-style-type: none"> <li>✓ Knowledge and understanding of primary text(s) is the key here. This is demonstrated through how well passages, quotations or lines from the original text(s) are used to back up the claims made</li> <li>✓ Some context should be offered. This could take the form of an acknowledgement of alternate textual readings or interpretations from established scholars. It is always advisable to argue how your approach agrees, differs or challenges these pre-established viewpoints</li> </ul>	<ul style="list-style-type: none"> <li>✗ Excessive historical and/or biographical background information</li> <li>✗ Excessive retelling of the story/narrative, as the focus should be on analysis (e.g., of themes, styles and characters)</li> <li>✗ Definitions in footnotes</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>
<b>Language A: language</b>	<ul style="list-style-type: none"> <li>✓ Some context should be offered that showcases any existing theories or approaches to your chosen text(s) or language aspects</li> <li>✓ Demonstrate in what way your topic is of relevance or particular interest or significance to the target language</li> </ul>	<ul style="list-style-type: none"> <li>✗ Personal experiences or opinions (unless you fall into the target audience of the language)</li> <li>✗ Definitions in footnotes</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>
<b>Language B: language and culture</b>	<ul style="list-style-type: none"> <li>✓ Some consideration of the context in which the topic is situated (e.g., cultural context)</li> <li>✓ An understanding of the implications of your topic to the wider culture or language chosen</li> <li>✓ Some of your research material should include (or be based on) primary sources (e.g., a cultural artefact)</li> <li>✓ Demonstrate in what way any chosen cultural artefacts are relevant to the particular topic or of interest or significance to the target language</li> </ul>	<ul style="list-style-type: none"> <li>✗ Excessive historical and/or biographical background information</li> <li>✗ Definitions in footnotes</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>
<b>Business management</b>	<ul style="list-style-type: none"> <li>✓ Source material chosen should all be relevant to your topic and question</li> <li>✓ Situate your topic and question within the wider business context</li> <li>✓ Accurate and consistent use of business terminology and concepts should be present throughout the essay</li> <li>✓ Offer explanations and definitions for complex terms or concepts used (specifically in relation to how you use them in your essay)</li> </ul>	<ul style="list-style-type: none"> <li>✗ A separate section on background theory or terminology</li> <li>✗ Definitions in footnotes</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>





<b>Digital society</b>	<ul style="list-style-type: none"> <li>✓ Offer a clear explanation of the IT system your essay is exploring along with accurately cited and labelled diagrams and images</li> <li>✓ All visual material should be labelled, cited accurately and referred to in the body of the essay</li> <li>✓ Use correct IT terminology fluently in the body of the essay</li> </ul>	<ul style="list-style-type: none"> <li>✗ Definitions or explanations of terms and concepts in footnotes or in separate sections</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>
<b>Economics</b>	<ul style="list-style-type: none"> <li>✓ Use of relevant economic theory and models is the key here</li> <li>✓ Any references to background theory should be integrated within the body of the essay itself. Ideally this should appear at the exact point where it is referred to, as opposed to in a different section</li> <li>✓ Clearly indicating how the economic theory and data gathered is used to answer the research question is also essential</li> <li>✓ Real-world data should underpin all arguments and be the basis of any application of economic models</li> <li>✓ Diagrams should be correctly labelled and supported with evidence through in-text analysis and commentary so as to demonstrate their relevance</li> </ul>	<ul style="list-style-type: none"> <li>✗ A separate section on background theory or terminology</li> <li>✗ Definitions in footnotes</li> <li>✗ Generic diagrams or graphs</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>
<b>Geography</b>	<ul style="list-style-type: none"> <li>✓ Explain the terms and concepts used within the body of your essay</li> <li>✓ Use acknowledged geographical sources as much as possible</li> <li>✓ Include only relevant source material</li> <li>✓ Support your points or arguments with relevant source material at all times</li> <li>✓ Diagrams, graphs, maps and so forth should all be correctly labelled and supported by solid geographical evidence (either primary or secondary in nature)</li> <li>✓ Outline how any fieldwork or experiments were conducted in a manner that would allow for easy reproduction</li> <li>✓ If sources use different names for people, places, phenomena and so on, include a foreword on naming conventions after the table of contents (e.g., "for the purposes of this essay the island will be referred to by its original nomenclature of Rapa Nui as opposed to the more common English name of Easter Island, unless a direct quotation from a source is used which refers to it as such")</li> </ul>	<ul style="list-style-type: none"> <li>✗ A separate section on background theory or terminology</li> <li>✗ Definitions or explanations of terms and concepts in footnotes or as separate sections</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>





### Global politics

- ✓ Establish clear links between your chosen topic and the political theories, figures or institutions that underpin it
- ✓ Place your topic within the wider political context by showing how they relate
- ✓ Demonstrate an awareness of how sociocultural biases can affect the political issue being investigated
- ✓ It is vital that you demonstrate a solid grasp of the subject's terminology as taught in the IB Diploma Programme course
- ✓ Ensure you provide ongoing analyses of the data and source material you've used
- ✓ If sources use different names for people, places, parties and so on, include a foreword on naming conventions after the table of contents (e.g., "For the purposes of this essay the Bangladesh Nationalist Party is referred to by its English title instead of the Bengali variant of *Bangladesher Jatiyobadi Dal*, unless a direct quotation from a source is used which refers to it as such")

- ✗ A separate section on background theory or terminology
- ✗ Definitions or explanations of terms and concepts in footnotes or as separate sections
- ✗ Images that are not referenced in the body of the essay

### History

- ✓ All source material used in the body of the essay must help develop an argument and be relevant to the research question
- ✓ Place your research question within the wider historical context (e.g., link it to causation, implications, impact)
- ✓ Accurately employ historical command terms and concepts
- ✓ Ensure all your information is factual and accurate
- ✓ If historical sources use different names for people, places, events and so on, include a foreword on naming conventions after the table of contents (e.g., "the leader of the Mongols is referred to in historical sources as Chingiz, Chinggis or Zingis, among other spellings; however, for the purposes of this essay he will be referred to by the more contemporary Genghis Khan, unless a direct quotation from a source is used where a variant spelling is used")

- ✗ Using source material to recount events or tell a narrative without any analysis or argument
- ✗ Definitions in footnotes
- ✗ Images that are not referenced in the body of the essay

### Psychology

- ✓ Offer an evaluation and/or commentary of the studies chosen based on any cultural, ethical, gender and methodological factors that may have contributed or influenced them
- ✓ Accurately and consistently use the terms and concepts associated with the IB Diploma Programme psychology course
- ✓ Base your essay on relevant source material (ideally of an academic nature)

- ✗ Generally, using sources that do not fit the academic model for psychological studies
- ✗ Conducting primary research
- ✗ Definitions in footnotes
- ✗ Images that are not referenced in the body of the essay





<p>→ <b>Biology, chemistry, physics</b></p>	<ul style="list-style-type: none"> <li>✓ All secondary source materials should be from reputable scientific sources and clearly relevant to the investigation</li> <li>✓ Correctly use any scientific terms and apply them correctly in the body of the essay</li> <li>✓ Make appropriate and consistent use of science-specific units of measurement or symbols</li> <li>✓ Explain any technical terms in relation to how you use them in your essay</li> <li>✓ Outline how any experiments were conducted in a manner that would allow for easy reproduction</li> </ul>	<ul style="list-style-type: none"> <li>✗ Excessive use of scientific jargon (clarity is preferred above all)</li> <li>✗ Step-by-step, recipe-style lists of resources used in experimental work and overly detailed procedurals (remember the extended essay is not an IA)</li> <li>✗ Definitions in footnotes</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>
<p><b>Mathematics</b></p>	<ul style="list-style-type: none"> <li>✓ Only mathematics that is relevant to the specific research question should be used in the body of the essay</li> <li>✓ It is generally advised to pitch a mathematics extended essay to a reader who has anything from a strong interest in to advanced knowledge of mathematics. This often means writing in such a way that the argument, as demonstrated by the mathematics used, is clear. This involves doing the mathematics and showing all the steps behind the reasoning</li> <li>✓ If complex theorems are used, always accompany them with an example to illustrate what you mean</li> <li>✓ Use notations styles with consistency and accuracy (e.g., if using radians to measure angles do so all through your essay rather than switching between radians and degrees)</li> </ul>	<ul style="list-style-type: none"> <li>✗ Wider mathematical knowledge if not directly relevant to the chosen research question</li> <li>✗ Drawing conclusions from mathematics without having first shown the working out in the body of the essay</li> <li>✗ Definitions in footnotes</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>
<p><b>The arts</b></p>	<ul style="list-style-type: none"> <li>✓ Always situate your research question within a wider social, historical or cultural context (this is not the same as providing lengthy background information)</li> <li>✓ Demonstrate an awareness of any existing theories, approaches, dialogue or criticism relevant to the specific arts subject and topic</li> <li>✓ Evaluate your source material for reliability and validity, commenting on any limitations</li> <li>✓ Ensure you are consistent in your usage of subject-specific terminology and any specific language (e.g., musical notation, stage terminology or visual arts techniques)</li> </ul>	<ul style="list-style-type: none"> <li>✗ Avoid relying on subjective, opinion-based accounts</li> <li>✗ Avoid including lengthy biographical or historical background information</li> <li>✗ Definitions in footnotes</li> <li>✗ Images that are not referenced in the body of the essay</li> </ul>

## Criterion C: Analysis and line of argument (6 marks)

- Key strands:**
- Analysis
  - Line of argument

This criterion awards marks for how effectively you analyse your evidence and how well you provide a reasoned argument based on the evidence (both primary and secondary) you provide.

There are two key strands that need to be met in order to score high marks under this criterion: analysis and line of argument.

### Analysis

This requires you consistently to respond to the following questions:

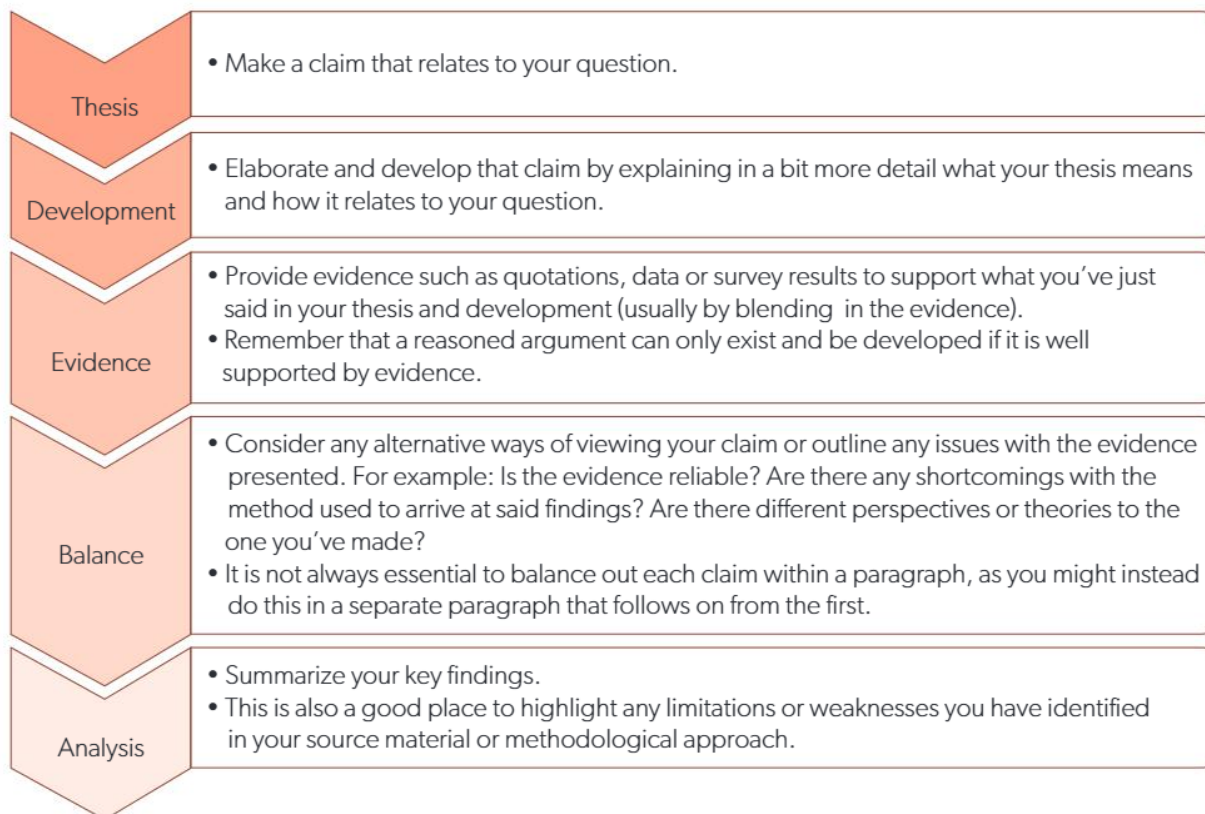
Q1a. What are the key findings my reading and research have pointed me towards in relation to my question? **or** Q1b. What does the evidence tell me about my question?

#### AND

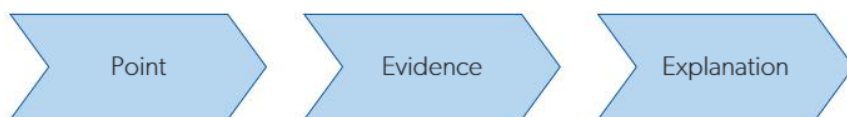
Q2a. How does it shape my argument? **or** Q2b. What conclusions does it point me towards?

In order to do this, your essay's paragraph structure should consistently lend itself to analysis. This is best achieved through the use of a template such as can be seen in Chapter 5, pages 73–75.

Briefly, this means all your paragraphs follow a model where you:



An alternate and simpler approach to analytical writing is the PEE model:



This is effectively the same idea as the model on the previous page. In each paragraph you develop a point (a thesis) with the support of evidence, before finally arriving at a mini-conclusion that links back to your overall question (the analysis).

The end product must be the gradual development of an argument that remains consistently relevant and fixed on answering your research question.

## Line of argument

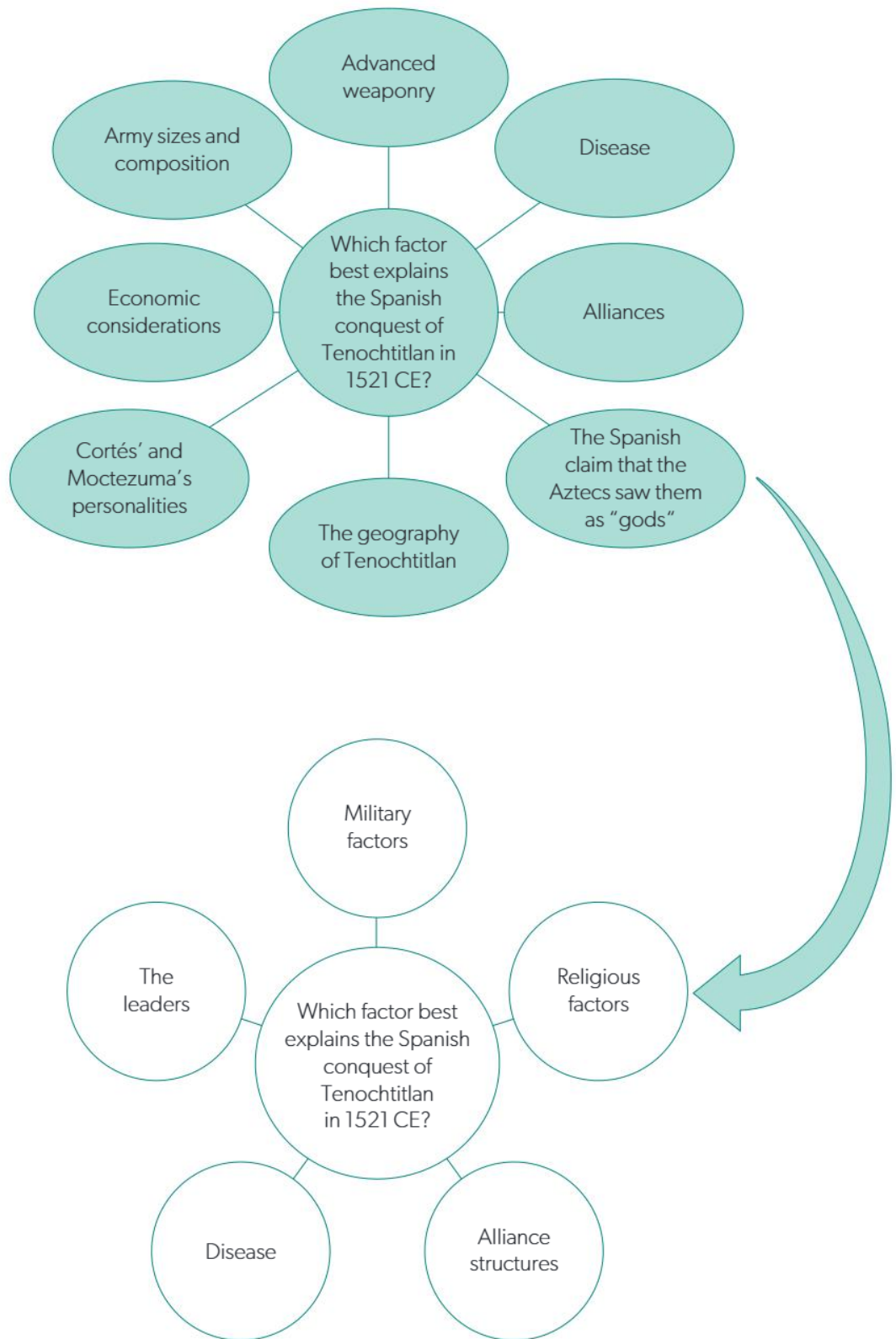
This strand refers to the overall flow of your argument and assesses how clear your positions (or thoughts) on your chosen topic are to a reader and how effective your writing is in convincing them of the soundness of your conclusion(s).

The line of argument is best understood as a river that carries the reader through the landscape of your essay's content. You need to make sure that you **stay on course** (i.e., don't deviate into irrelevant arguments that answer a different question to your intended one) and the river is free of any **obstacles** (irrelevant content that distracts from your essay's main argument).

In order to be effective, you should consider signposting your writing so that a reader is clear on what the "journey" is going to be like.

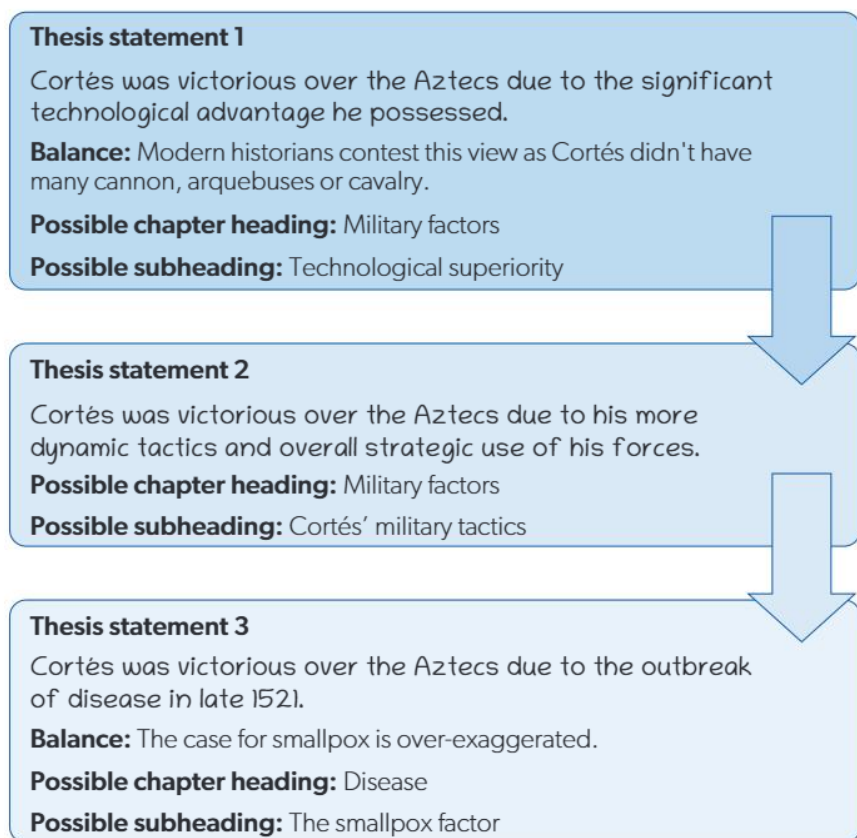
It is very useful to mind-map possible avenues for exploration of your topic. This process is helpful for delineating your overall line of argument as you can, in a summative fashion, assess what parts are useful and which less so (or likely to be subsumed under a larger heading).

On the following pages is a history example focused on which factor best explains the Spanish conquest of the Aztec city Tenochtitlan in 1521 CE. It shows how an initial mind map of multiple ideas (or lines of argument) can quickly devolve into a narrower and more focused essay where each is clearly linked to the overall question and allows for a robust and balanced approach in answering it.





The flow diagram below shows how each bullet point from the mind maps could be joined together to create a logical sequence of ideas and a well-structured line of argument. Each point builds on the other and makes it very clear to a reader what you are doing.



There is an additional example of this process in Chapter 3, page 54.

### Table of contents and introduction

Two other features you should include to help a reader understand your line of argument (as a minimum) are:

1. **Table of contents:** a clearly laid out table of contents which outlines what topics and sub-topics you are planning to cover in your essay. The table of contents is the first visual representation of your essay's line of argument, so do be mindful of this and ensure it is accurate and helps the reader navigate the essay.
2. **Introduction:** a section of your introduction should include a mention of what you're covering in the body of the essay (your table of contents in prose, so to speak). This has been covered in some detail earlier on pages 113–115.

## Criterion D: Discussion and evaluation (8 marks)

- Key strands:**
- Discussion
  - Evaluation

This criterion has the greatest allocation of marks afforded to it for the simple reason that a research paper should ultimately contain a rich discussion and evaluation of the question (and the sources or methods) that drive it. In this section there is a summative breakdown of each strand, though the strands inevitably interconnect, and as such, a cumulative mark is awarded rather than 4 marks for discussion and 4 marks for evaluation.

### Discussion

This strand focuses on your ability to offer, throughout your essay, a thoughtful and balanced perspective on your topic and the sources or methods used to investigate it. Your overall discussion should also aim to be convincing. That is to say, any claims or opinions you offer should be tightly connected to the evidence you provide (be it primary or secondary in nature).

As such, your essay needs to showcase a couple of things:

- **Varied perspectives:** this can be achieved through the adherence to the paragraph-writing model suggested above for Criterion C, where “balance” is a constituent part of almost all paragraphs or sections of an essay’s main body.

When mind-mapping the key strands of your essay or reviewing the literature on your topic, note down and consider what varied views are offered or what alternate approaches are possible in terms of answering your question. In the Aztec example from Criterion C on the page opposite, you can see how this is done in thesis 1 and thesis 3, where a potential balanced or alternate perspective can be offered for that section’s main thesis.

- **Significance of findings:** you need to explicitly comment on what your research or sources are saying about your question. Consider responding to questions such as:
  - Do your findings point your conclusion in a different direction to what was expected or to what had already been said?
  - Are you finding that your approach has yielded an interesting new angle through which to view the question?
  - Has your reading (or experimentation) challenged or reinforced existing assumptions?
  - Has your research helped you understand the extent to which factor A or B contributed to the topic you’re investigating?
  - Has any of your primary or secondary source work removed certain things from consideration?
  - Has your research helped you evaluate the implications of factor A or B on the topic being investigated?

Here is an example from a history EE which showcases one way in which you can offer both a varied perspective and highlight the significance of your findings.

To what extent was conflict with the Thule Inuit the main factor underpinning the collapse of Norse Greenland (ca. 1327–1415 CE)?

The scholarly consensus (Thomas McGovern, Jared Diamond, Paul Cooper), supported by the archaeological record and accounts in the Sagas, is that the Norse transplanted their own culture into this new land by keeping to what they knew: traditional farming practices (wheat), a dependence on animal husbandry of imported livestock and manufacturing of goods and construction of ships and buildings using methods brought from Norway (Arneborg, 2003, p. 166). In order to maintain this transplanted culture, the Vikings cut down the sparse coverage of existing trees (birch and willow, which kept the nutrient-rich topsoil from eroding) and burned the rest to clear the land for cultivation and grazing, as well as for use in iron-ore smelting, which they needed for their weapons and tools (especially sickles for wheat farming and nails for construction) ...

However, alternative contemporary analyses by the likes of Jette Arneborg, Zach Zorich, James Barrett and Eli Kintisch posit that although environmental and cultural factors played some role, this "is only part of the explanation" (Arneborg, 2003, p. 177). They offer instead a wider explanation that focuses on the Norse Greenland economy and changing trade dynamics with Europe, which saw the Norse principal export of walrus ivory plummet in value due to the shifting preference for the much closer elephant ivory from Africa ... This drop in income supplied by trade with mainland Europe limited the Greenland Vikings' ability to afford vital imports of iron, lumber and foodstuffs which the geography of Greenland could not provide. This loss of income made the colony less prosperous overall and, with the growing threat posed by the Thule Inuit as well, played a significant role in making long-term and continued habitation non-tenable.

Offers one school of thought on the topic and supports it with appropriate evidence.

Challenges the initial thesis and suggests an alternate way of looking at the same topic. Also, backs it up with appropriate evidence. Note how the writing still acknowledges that thesis A still played "some" role and then qualifies the extent of the contribution of thesis B in the final line ("significant role").

## Evaluation

This strand tasks you with assessing the role and effectiveness of your chosen source material (and their authors/creators in the case of secondary sources), while also offering a final conclusion which synthesizes (or draws together) all the various lines of argument and strands of your essay.

### Criterion D and the conclusion

Unsurprisingly, the conclusion to your essay is one of the best places to ensure you're covering this strand, though it should be noted that it helps to have mini-conclusions (or a final analytical sentence or two) at the end of each section or paragraph of your essay (this would depend on whether your essay is designed in sections or free-flowing of course).

Opposite is an exemplar conclusion, responding to the same question relating to Norse Greenland. It draws together all the main strands of argument while also offering an evaluation of the value and limitations of its source-based approach.



Synthesizes all the key arguments and rewords them in a manner that makes it clear what the student's concluding thought is on the topic. The points are coherent with what was written in the main body of the essay.

Provides a summative source analysis of key resources used and how they impacted the argument. Also, suggests an alternate line of inquiry that could have been possible if the scope of the essay were expanded.

## Note

Source analysis or a methodological review is something that can also happen throughout the essay. It is good practice to evaluate your sources (or methods) after you've used them three or four times as they have clearly played a big enough role to warrant some evaluative consideration. For more support on value and limitations, see Chapter 3, pages 55–57.

In conclusion, it appears the Norse settlements in Greenland collapsed due to a combination of interlocking factors that all played their part in making continued colonization untenable. The overexploitation of the environment and continued reliance and adherence to Norse cultural practices in farming and manufacturing of goods, coupled with a global temperature change, created the perfect storm to make an already fragile society transform into one of subsistence and eventual demise. The collapse of the global trade in walrus ivory also made any continued presence in Greenland untenable or at the very least, dissuaded future settlers from making the voyage there from the homeland. Lastly, and rather significantly, the ongoing and escalating hostilities between the Norse and Inuit, undercut by intractable prejudices on the Norse side led to a gradual but critical (for the Norse) depletion of the labour power which their already fragile society so depended upon. The nail in the coffin, though, was probably an offshoot of the wider conflict in that it prevented any form of meaningful cohabitation and collaboration or, at the very least, an openness on the part of the Norse to modify their customs to better adapt to the changing landscape as the Inuit had done. In the end, it seems they preferred to hold onto the things that made them Norse and either die out or leave Greenland for good.

It must be acknowledged, however, that this conclusion challenges the dominant interpretation offered by sociocultural anthropologists who localize the cause more squarely on human agency and environmental exploitation. However, this view has been found to be lacking and one-dimensional, due to both the commentary contained within the Norse writings themselves (their Sagas), Inuit folktales and the work of contemporary archaeologists and historians, which more convincingly suggest an interlocking web of factors that also takes into account the one posited by those who argue for an ecological cause. Of course, the essay acknowledges the limitations in relying on often imprecise and biased Norse accounts (especially when dealing with the Inuit) and oral traditions of the Inuit, as both lack definitive validation and verification due to their narrative and orally transmitted nature. However, this has been counter-balanced with the recent scholarly work by Arneborg, Barrett, Cooper and Nedkvitne, whose detailed studies and reliance on archaeological records and interrogations of mainland European primary texts (principally the trade records) helps shed light on the events in question. Finally, the essay recognizes that, though a comparative study of the nearby Iceland Vikings (whose settlements survived) could have offered a good counterpoint from which to evaluate the factors this essay raises, this was ultimately rejected as a line of enquiry as it would have gone beyond the scope of the current essay and its word count.

The following questions should help support you when addressing the evaluation strand:

- a. Have you critically evaluated your key sources (or methods) for both value and limitations (strengths and weaknesses)?
- b. As a result of your research, what have you determined is the core answer(s) to your research question?



- c. Are there any aspects or factors you have not taken into account that need mentioning in your conclusion?
- d. How definitive a conclusion can you arrive at? What would help make it more definitive?
- e. How far does your conclusion differ from or challenge conventional wisdom or approaches?
- f. Are your conclusions consistent with your argument as it develops in the main body?

## Criteria A–D checklist

The following checklist includes essential questions that you should aim to respond to for Criteria A–D.

Cover page	
1. Does your cover page contain your student code?	<input type="checkbox"/>
2. Do(es) the research question (and title if it has one) on the cover page match the other parts of your essay?	<input type="checkbox"/>
3. Does the conclusion answer the research question on the cover page?	<input type="checkbox"/>
4. Is the spelling and grammar of the research question correct?	<input type="checkbox"/>
5. Does the research question end with a question mark?	<input type="checkbox"/>
6. Is the subject (or subjects, if interdisciplinary) mentioned on the cover page?	<input type="checkbox"/>
7. Have you included any categories or frameworks on the cover page (if applicable)?	<input type="checkbox"/>
8. Have you included an accurate word count on the cover page?	<input type="checkbox"/>
9. Have you ensured that no personal information is on the cover page?	<input type="checkbox"/>
Table of contents	
10. Does the essay contain a table of contents?	<input type="checkbox"/>
11. Is the list of sections or chapters sequential (i.e., as they appear in the essay)?	<input type="checkbox"/>
12. Do the page numbers in the table of contents correspond to the right pages?	<input type="checkbox"/>
13. Does every page have a number on it?	<input type="checkbox"/>
Formatting	
14. Does the essay use a readable font (e.g., Aptos, Arial, Times New Roman or Calibri)?	<input type="checkbox"/>
15. Is the font size set to 12pt?	<input type="checkbox"/>
16. Is the essay set to 1.5 spacing?	<input type="checkbox"/>

### Note

When evaluating, be mindful to avoid:

- narrative or descriptive accounts
- embedding new information
- basing your final evaluation on personal opinion or unsupported claims
- drawing a conclusion that is at odds with your argument developed in the main body
- omitting any mention of limitations in terms of your approach. It is good academic practice to recognize any shortcomings in your method or approach.



### Structure

17. Does your essay have clearly defined and relevant sections (cover page, table of contents, introduction, main body sections, conclusion and bibliography as a minimum)?

18. Does your essay include an introduction that explicitly mentions:

- the research question
- the context
- line of argument
- methods
- worthiness?

### Research

19. Have you situated your research question within a wider context?

20. Have you supported key claims in your work with appropriate (ideally academic) source material?

List your sources and then evaluate each one for reliability and validity. It should pass the following questioning if it's to be deemed of academic value:

- Does your data come from approved or acknowledged sources? Remember: blogs, general websites, Wikipedia and the like do not usually qualify.
- If your data comes from primary research, have you followed an approved or acknowledged methodology in terms of data collection? Check with your supervisor if the method adheres to the subject's research guidelines.

**Note:** If the majority of your source material does not pass the above checks, consider finding alternate sources that do. Some of your sources can be non-academic in nature, though care should be taken when using them in your work. As a minimum, acknowledge their limitations in your writing.

21. Have you assessed the value and limitations of your source material in your writing? For more on this see Chapter 3, pages 55–56.

22. Does your essay meet the IB's *Ethical guidelines for extended essays research and fieldwork* and/or *Sciences experimentation guidelines* (if applicable)?

### Method

23. Does your method of analysis adhere to the subject's acknowledged conventions?

24. Have you used subject-specific terminology (or conceptual language) accurately throughout your essay?

**Note:** If you've used a technical term in a particular way, it helps to define your particular usage of it in the body of your work. Also, complex terms benefit from a brief definition for the sake of clarity or an illustrative example to help the reader follow your train of thought.



Accuracy	
25. Have you accurately labelled all figures that you may have used, such as images, graphs, diagrams, maps?	<input type="checkbox"/>
26. Is your content (including measurements, dates, events, characters) accurate and correct at all times?	<input type="checkbox"/>
Referencing (citations and bibliography)	
27. Does the essay include citations (either in-text or in a footnote/endnote format) using an approved style (such as APA or MLA)?	<input type="checkbox"/>
28. Does the essay include a bibliography of only the works cited in the body of the essay?	<input type="checkbox"/>
29. Does the bibliography adhere to one style (such as APA or MLA)?	<input type="checkbox"/>
30. Is the bibliography in alphabetical order?	<input type="checkbox"/>
31. Is the spelling of all words in the bibliography correct?	<input type="checkbox"/>
32. Do images, tables, figures and graphs have captions that include all reference details?	<input type="checkbox"/>

## Criterion E: Reflection (4 marks)

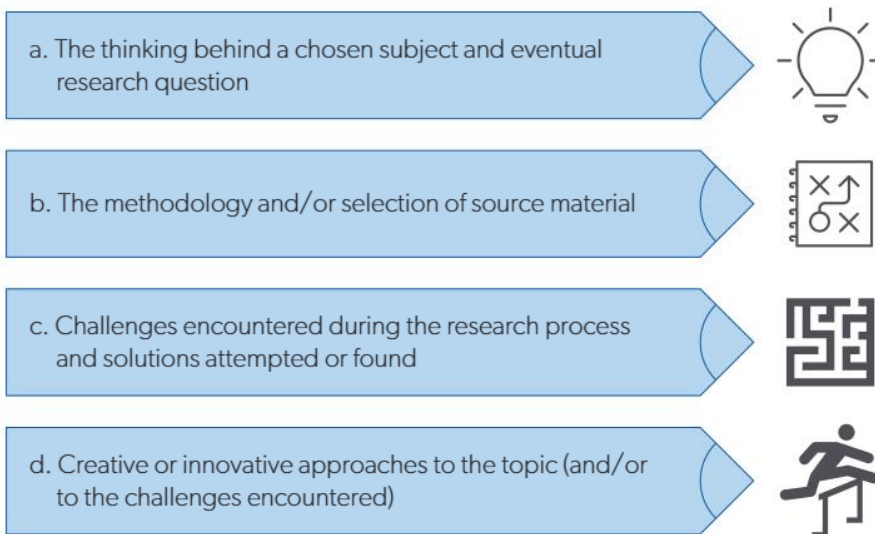
- Key strands:**
- Evaluative
  - Growth

The key to being awarded the 4 marks for Criterion E is for you to comment on how the process of researching and writing your extended essay (i.e., your engagement with the process) has impacted your personal development (i.e., your skills, thoughts, knowledge) and growth (i.e., your decision-making, future aspirations or life in general).

These two strands will be treated together as they are closely linked; however, a quick distinction to keep in mind is this:

Evaluative	<ul style="list-style-type: none"> <li>• How the process has affected your thinking and broader understanding</li> </ul>
Growth	<ul style="list-style-type: none"> <li>• How the process has affected your skills development</li> </ul>
Both	<ul style="list-style-type: none"> <li>• How you've applied (or could apply) these thoughts and skills to other circumstances</li> </ul>

Meeting the requirements of this criterion's strands is best achieved by commenting on the following elements and connecting these to how they may have shaped your own development and growth:



	Consider how elements of the EE process have:	Example
Evaluative	a. shaped your thinking on the topic itself or more broadly on associated topics	I realized human-initiated environmental devastation is not something exclusive to modernity as medieval people also wrestled with it.
	b. allowed you to consider more balanced viewpoints	I now realize that the topic is not as straightforward as being wholly dependent on factor A but B and C also played a critical role.
	c. challenged your pre-existing assumptions	I thought A was the main cause at the start of my research but gradually understood it was more complex as ...
	d. altered your view on research	I hadn't realized that research into seemingly minor things such as fish bones in garbage dumps could tell me so much about the eating habits of people at given periods in time.
	e. made you appreciate or reconsider structural or planning elements	I never fully appreciated just how much I needed to have a clear plan and be disciplined in terms of my organization to even get to the writing stage.
	f. profoundly reshaped your world view	I understand now just how difficult and seemingly impossible it is to arrive at absolute certainty on a topic as there are so many conflicting variables. This has really shaken my "textbook" certainties where I naively assumed everything in a book was true.
Growth	a. helped you develop certain useful skills or competencies with devices, apps and software	My use of Microsoft Excel to organize my notes has greatly benefited my organizational skills as it allows me a quick way to access notes under headings I can filter.
	b. enabled you to succeed in other fields of study	My research on enzymes and their effect on metabolic rates has been a real boon for me when it comes to my broader understanding of catalysis and substrates which feature prominently in IB biology.



→	c. made you recognize shortcomings or gaps in your skill set	I have come to recognize my time management is not very good at present as I spend far too much time taking notes and the way I do this is not proving efficient, so I need to rethink this and try ...
	d. allowed you to transfer a skill to another (or affiliated) domain of your life	I have come to realize that my technological literacy, specifically in programming, has come quite a long way as a result of analysing code for my EE and I find I use the same software and techniques now to experiment with my own coding in ...
	e. influenced a decision in terms of future study or a career	My research on medieval warfare has had me looking more deeply into a niche career in metallurgy with a specific focus on sword-making.
	f. motivated you to explore something in more depth	Researching my EE on IDEXX Laboratories' corporate profitability in veterinary care has made me deeply fascinated with corporate fundamentals and financial statements, which I am avidly reading now as a means to improve future investment considerations.

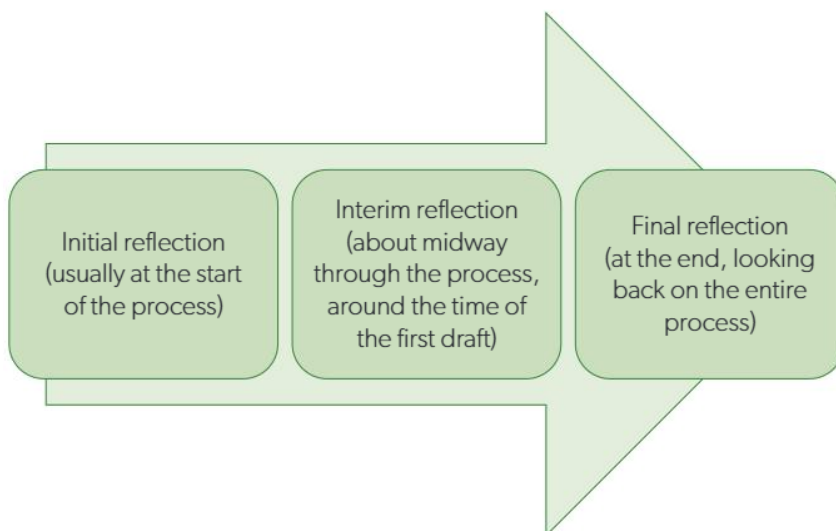
## How is this assessed?

The way the IB assesses this criterion is by means of the reflection and progress form (RPF). This is a form into which you add your summative reflections at the conclusion of the EE process. The contents of this reflection are informed by the three mandatory reflection sessions with your supervisor.

Of course, you are not limited to just these three sessions. There will inevitably be more times you will meet with your allocated supervisor where you cover a wide variety of things in support of your extended essay. These non-mandated sessions will range from quick 5–10-minute meetings to longer sessions to go over your research plan or provide feedback on your draft. The outcome of these meetings may also inform your final reflective statement.

To help support your writing of the final reflective statement, it is advised that you keep notes of your thoughts and discussions with your supervisor from the three mandatory sessions.

In the RPF you will be expected to write a summative 500-word reflection looking back over the entire extended essay process. The supervisor's report that is added to the RPF will also shed light on how well you've met the two strands for this criterion (E). The three mandatory reflection sessions will ideally be as follows:



### 1. First reflection session

This will be one of the early sessions with your supervisor (not necessarily the first) where you will outline your ideas regarding the topic in general, the research question you have in mind, initial background reading or research you may have conducted, possible approaches and your initial thoughts about the answer to your research question.

In terms of reflection related notes, at this initial juncture you will usually focus on the process of selecting your topic and a possible approach to your investigation (such as sources to be used or experiments to be conducted). This is also a good place to mention your motivation(s) for pursuing research in the topic (such as to develop or deepen content knowledge in the field, support your interests in terms of future studies, develop a specific skill or increase your proficiency in certain tools or devices).

### 2. Interim reflection session

This session will usually fall somewhere in the middle to latter half of your EE calendar, usually before the first full draft is completed. The general expectation is that you are able to present to your supervisor a more refined research question, discuss your essay on the basis of some sustained writing and comment on any challenges encountered and what solutions you've attempted.

In terms of reflection notes, the interim reflection is a good place to jot down key points you've found or learned thus far, together with the issues (and possible solutions) you've encountered along the way. It's also a point at which you can start to consider any skills development and growth (or issues) in broader areas.

### 3. Final reflection session (viva voce)

This session is indeed the last time you will meet your supervisor as it is intended to be the closing interview. This session takes place after the EE is uploaded for assessment so your supervisor will have read your work. It is an opportunity to offer your final reflections on the process, discuss any achievements and challenges overcome, while also sharing any aspects that contributed to the completion of the essay but are not immediately apparent within it.

In terms of your final reflection notes this is the point at which you can summarize your key findings as a result of the process, both in terms of your overall question and the skills development and growth you feel you've made overall.

An example reflection can be found on page 151.

## How many words can I write in the RPF?

The form is a fillable PDF and is restricted to 500 words in total, so use your words wisely—be relevant, sharply focused and summative.

## What do I need to bring to the reflection sessions?

The IB advises you to maintain a Researcher's Reflection Space (RRS) to support you with your research and as evidence to show how well you've engaged with both the research focus and process overall. The RRS can be kept in any form (for example, journal, scrapbook or online blog). It is intended to be a place where the process is chronicled as a whole and can therefore be a showcase to your supervisor of your level of reflective engagement with the extended essay as a whole.

## Towards meaningful reflection

Reflecting before, upon and after action has proven time and time again to be a key ingredient to successfully creating any “product”, be it a piece of homework, a creative, activity, service (CAS) activity or an extended essay.

### What are the purposes of reflection?

The reasons reflection is helpful could be broadly separated into five categories:

- **Discerning pros and cons:** What are the advantages or disadvantages of your chosen approach (such as the sources selected or methods chosen)?
- **Adjusting action:** What should you do to counteract problems or limitations with your research approach?
- **Gap filling:** What is missing from your research or analysis? What else should you be doing? What skills do you need to develop or have you found useful in the process? How proficient are you with these (assess this as you go)?
- **Re-evaluating goals:** What is your research pointing to that differs from your initial hypothesis or position? Has your research focus changed?
- **Celebrating growth and failure:** What have you learned from your mistakes or choices made as part of your research? How successful were you in overcoming them? What have you learned about yourself from this process? Can you apply anything you have learned elsewhere? Has it changed your thoughts or approach to things?

### So what is good reflection?

Although this will vary from situation to situation, broadly speaking, it is safe to say that good and poor reflecting will be characterized by the following features:

Good reflection	Poor reflection
<ul style="list-style-type: none"> <li>• Meaningful</li> <li>• Individual</li> <li>• Ongoing and episodic</li> <li>• Formative</li> <li>• Corrective</li> <li>• Uncomfortable</li> <li>• Productive</li> <li>• Social</li> <li>• Challenging</li> </ul>	<ul style="list-style-type: none"> <li>• Descriptive only</li> <li>• Complaining</li> <li>• Criticizing only</li> <li>• Boring</li> <li>• Linear or static</li> <li>• Hour counting</li> <li>• A one-off task</li> </ul>

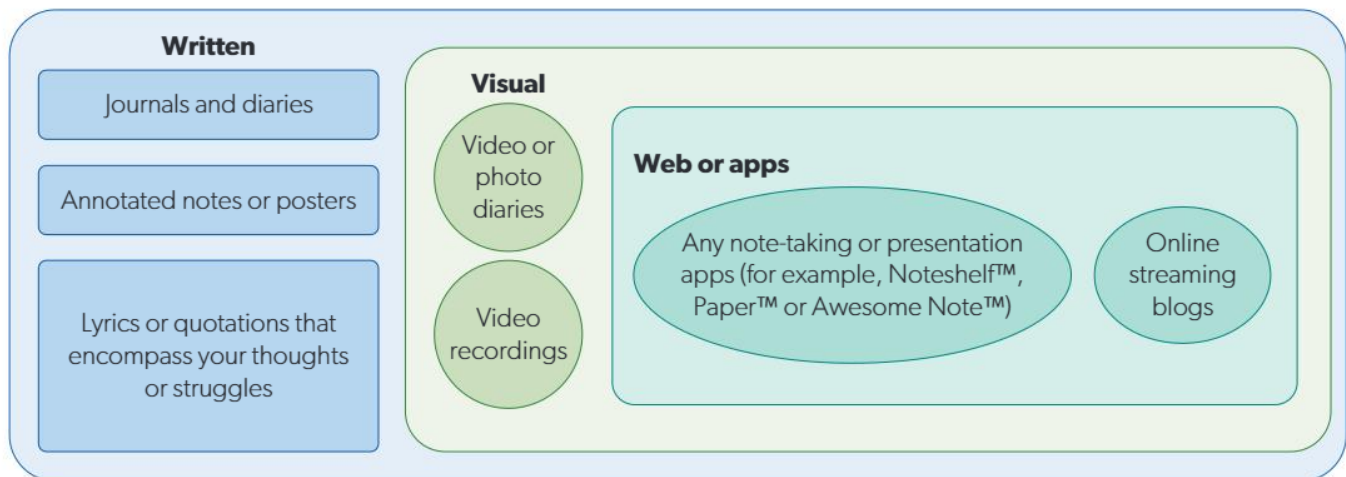
Good reflecting should challenge you, your assumptions and your approach. It should be social in nature as you seek to find solutions to problems through dialogue and discourse with experts. Good reflecting should always correct bad practice or incorrect steps in your research. It should be an ongoing process, undertaken in episodes, rather than a one-off task you complete at the end. Additionally, it should be honest and include your actual thoughts and feelings rather than what you think you are expected to say out of politeness or “political correctness”.

Most importantly, it should be meaningful—it should help you realize what worked and what didn't and thus point you towards finding appropriate solutions or support. In essence, good reflecting should enable you to grow and learn from both your successes and mistakes.

## How can I reflect?

Ideally, you should aim to create a “space” where you can keep notes, clippings from useful articles, video files, annotations, scribbled ideas and anything that helps build the extended essay. What form this “space” takes is completely up to you.

A traditional approach is to keep a running journal with clippings and annotations (much like a scrapbook where the focus is your research question). However, you should not be limited to this, especially when you have access to a myriad of digital platforms and spaces that can help contain and exhibit your work (for example, Microsoft OneNote, Microsoft Teams™ or Google Docs™).



## What should you include in your Researcher's Reflection Space?

The key to making the RRS work is to include the following:

- **Reading:** Make a log of your reading as you complete it. This could be in the form of a bibliography and/or some short notes on what you thought you gained from each source, even if very little or nothing! Remember, good reflection acknowledges mistakes made or incorrect paths followed.
- **Notes:** Record brief notes on your developing (often changing) thoughts on your research question as a result of your reading and research.
- **Challenges:** Register any challenges (even frustrations) and what you did about them, especially if they revolve around the research itself. Avoid simply complaining about things such as missed opportunities or time wasted. Reflect on how you can avoid these issues in future.
- **Visuals:** Include annotated diagrams, charts, illustrations or images that help build your argument.
- **Skills:** Document any newly developed skills or refining of pre-existing skills that you gain as a result of the research process and where these have proven helpful (including in other areas of your studies or life more broadly).



## Getting the most out of reflection

On the next page is a list of key questions that you should consider when writing your core reflections in your RRS, which could then inform what you end up including in the assessed reflection and progress form (RPF). Each key question is subdivided into additional stimuli questions to help guide your reflections along a more research-based focus. Bear in mind that you do not need to answer all of the additional stimuli questions as they may not all apply to you. What you must do, however, is respond to the key questions as a minimum. Your supervisor should encourage questioning along these lines so you can make the most out of those meetings.

### 1. How effective were your choices?

- a. In what way(s) did your chosen methodology produce a definite or satisfactory answer to your research question?
- b. In what way(s) did your personal reading shed any new light on the text or challenge or confirm pre-existing schools of thought?
- c. In what way(s) did your choice of source material lead to a comprehensive assessment of all (or most) factors?
- d. Was your choice of sources consistently relevant to your research question? What implication did that have on your conclusion (e.g., "it produced a more sharply focused conclusion")?
- e. To what extent did your primary research consider (most) all key variables or factors in external agents (such as sociocultural influences, gender or researcher bias)?
- f. To what extent did your research material (or approach) use the latest research in the field, making it up to date?
- g. In what way(s) did your research highlight any undocumented or new thoughts on the topic in question?
- h. To what extent could your approach be seen as yielding reliable (and/or valid) results?

### 2. What changes were necessary during the research process?

- a. Did your research bring to light any material or data that forced you to rethink your approach or adjust your research question accordingly?
- b. Did your methodological approach or choice of sources consistently yield the required results, or were changes or additions required?
- c. In what way(s) did your extended essay compel you to seek out new modes of note taking or overall organization (e.g., time management)?
- d. To what extent did you include a wide variety of source material (i.e., not just internet sources)?
- e. Did your argument require a greater balance of opinion that forced you to do wider reading or additional primary research?
- f. Why did you switch from a primary to secondary research approach (or vice versa)?

### 3. How has the process of researching and writing an EE helped your development and growth?

- a. Did your research require you to acquire more technical skills or adapt your technical proficiencies so as to conduct your research properly (e.g., learning how to use specific laboratory or technological equipment, or how to devise subject-appropriate surveys)?
- b. Was there a lack of sufficient source material to begin with when it came to your topic? How did you overcome this and what did you learn from this?
- c. In what way(s) have your research findings added to the existing body of knowledge around your chosen topic or broadened your own understanding?
- d. Did you make any significant breakthroughs with regards to the topic in question?
- e. Were you able to devise any original approaches to respond to your research question?
- f. In what way(s) was your conclusion a comprehensive response? If inconclusive, what does this tell you about the challenges of research as a whole?
- g. In what way(s) could your chosen topic or approach be deemed a challenge to research (e.g., it deals with complex mathematics, concerns itself with an obscure aspect of history or attempts a new reading of a well-known text)?
- h. Did you acquire any new skills that you have found useful in other areas of your studies?
- i. Did your research or the process as a whole influence your thoughts on the topic or affiliated topics?
- j. Has your EE altered your view on things and if so, in what way?
- k. Has the EE influenced any of your future decision-making?

#### Note

The reflection and progress form (RPF) is not intended to be a place where you mention any medical or personal problems you may have encountered. Any adverse circumstances will be communicated to the IB via your IB DP coordinator through a different channel, so seek their guidance if that applies to you.

### Exemplar reflection

On the next page is an example of the kind of thing you could write in the RPF. The key at all times is to maintain a focus on the process of researching and writing the essay itself and how this has impacted your development and growth.

The example is intended for a history extended essay but similar types of reflection could be raised with any subject.

To what extent could Anna Comnena's history *The Alexiad* be read as a criticism of the reign of Emperor Manuel I?

I was attracted to Anna Comnena's *The Alexiad* as a result of extra readings that formed part of my IB history course. Considered to be Europe's first female historian, Anna stands in a unique place in terms of historiography, something which appealed to me as both a woman and budding historian. I was also keen to study Women's Studies post-IB so I was hoping this research paper would help cement this decision. I initially considered writing about her accounts of the Crusades but found the topic to be far too wide in scope. A reading of Magdalino's article "The Pen of the Aunt" helped me refocus on the issue of the text's historical purpose. I subsequently allocated time to reading historical accounts of Manuel's reign to decide how closely the events match what Anna mentions in her history to support my running hypothesis that she intended the work as a criticism of her nephew's reign. My sources gradually grew to include Runciman, France, Macrides, Chrystostomides and Hill. Early on, I was finding it hard to come up with a satisfactory counter to the questions of accuracy and authenticity that feature prominently in modern readings of her work. Historians ranging from Gibbon to Howard-Johnson completely challenged Anna's authorship, effectively negating my hypothesis. Through conversations with my supervisor I realised that this was quite common in history. I had never really considered history as anything but definitive accounts and so my research into this topic was quite a learning experience. I tried to overcome this impasse by rereading key sections of *The Alexiad* to map out her account against the political events of Manuel's reign and pleasingly, I discovered some interesting overlaps. Although obscure and subtle, the criticisms emerge by means of an unspoken comparison which Byzantine readers of her account would have well understood.

I structured my work in a comparative manner and found the use of Microsoft Excel to be a lifesaver as it allowed my notetaking to be organized under key headings, which I could quickly filter when searching for evidence to support my points. I ended up using this same approach for my IAs which yielded the same positive result.

Looking back, I believe I've been able to challenge the orthodox interpretations of Anna's work as a piece of fiction at the hands of a disgruntled woman by showing that she was effectively using one of the few weapons she still possessed in her diminished political state – that of words – to criticize the existing leadership. This research has only furthered my interest in gender-related studies as I'm even more fascinated now with the varied ways women used the tools at their disposal to "be heard". Looking back, I found referencing to be time-consuming; however, I fully understand its value and feel confident using it. Integrating source analysis proved more of a challenge due to my narrative tendencies, but this was something I worked on acutely and am pleased with the end result of my efforts.





8

## Academic integrity



In 2011, Germany's youngest ever defence minister, Karl-Theodor zu Guttenberg, was forced to resign his post as a result of a plagiarism scandal that had developed around his 2007 doctorate in law. It was discovered that large sections of the work contained uncited source material that put into question its authenticity and, one could argue, the integrity of its author.

This story shows that academic integrity (or honesty) matters. Academic integrity is not something that the IB takes lightly, nor is it something that any student at any level of education or in the professional sphere should ignore.

## What is academic integrity?

Being committed to **academic integrity** means that where you have relied on or used other people's work (including that of AI-powered tools), you have acknowledged it using an approved referencing style and there is no fabrication of data present in any part of your writing.

## What does the IB consider to be academic malpractice?

The IB considers academic malpractice to have occurred when:

- a student has committed **plagiarism**
- **collusion** has occurred, which is most often seen when students allow others to copy their homework or sections of a previously submitted assessment. This also applies to students submitting work that was already submitted by a student from a different year group
- a student **duplicates the same work** for different assessments or in order to meet different Diploma Programme requirements
- a student **cheats** in an examination or helps another student to cheat
- a student **fabricates** or **falsifies data** (for example, they lie in their CAS record or make up the statistics for a science extended essay).

It is good practice to ensure you check that your work does not fall foul of any of the above as it could lead to the award of no marks.

Adapted from the *Academic Integrity Policy*, IBO, updated March 2023, pp.14–15.

## Plagiarism

Plagiarism is by far the most common form of academic malpractice that students commit, especially when it comes to longer pieces of writing such as the extended essay. This is not always malicious in intent but rather the by-product of a lack of insight or understanding as to what exactly counts as plagiarism and what does not.

The following section aims to help you identify what constitutes plagiarism through a worksheet of real-life scenarios so that you can avoid committing it when the time comes to writing your extended essay (or any piece of IB coursework).

### Key terms

Maintaining **academic integrity** means being able to stand behind all the work you've produced as stemming honestly from your own efforts.

**Plagiarism** is when a student has used the ideas or work of another and passed it off as their own.

**Collusion** is when a student allows another to use or submit their work as their own.

See Chapter 3, pages 55–57 and Chapter 4, pages 66–67 for information on evaluating source reliability and conducting a literature review. This is often useful in helping to ensure that the information gathered from sources (especially web-based ones) is reliable to begin with.

## What counts as plagiarism?

<p>1. <b>Direct quotations (written and oral)</b></p>	<p>Any words that are used exactly as they were written or said by another must be adequately cited. This also includes any work generated by AI-powered tools.</p> <p>Quotation marks (“ ”) at the beginning and end of the quoted material, together with an in-text citation or footnoted reference, are required.</p> <p>For example:</p> <p>According to Smith, “this was an event of unparalleled magnitude” as it ushered in a period of ongoing conflict (Smith, 2009).</p> <p>The spoken word is of particular interest as it is often assumed that it is exempt and there is no need for a citation, but this could not be further from the truth.</p>
<p>2. <b>Paraphrasing</b></p>	<p>Paraphrasing (or rewriting) someone else’s ideas, views, theories or words (spoken or written) in your own words is considered plagiarism unless adequately cited.</p> <p>This also includes using AI-powered tools to summarize your own work or that of others.</p> <p>An in-text citation or footnoted reference after the section where you’ve referred to someone else’s ideas is required. For example:</p> <p>This act by Genghis Khan was of an unprecedented scale as it ushered in a period of ongoing conflict between the Persians and Mongols (Smith, 2009).</p>
<p>3. <b>Factual information</b></p>	<p>Any information such as facts, statistics, graphs, illustrations or tables that are borrowed from someone else (written or oral) must be cited.</p> <p>Even if you feel you know quite a lot of factual information about a topic (e.g., how many goals Cristiano Ronaldo scored in certain matches), you should still cite a source as it is good academic practice to back up your data with some form of external validation. This does not apply, however, to things that could be deemed common knowledge, such as who was the USA’s first African-American president, when the First World War broke out or how many molecules of hydrogen there are in water.</p> <p>If in doubt as to whether something is or isn’t common knowledge, remember the golden rule: when in doubt, cite.</p>

### Tip

**Golden rule:** when in doubt, cite!

## A note on AI-powered tools

AI-powered tools have become increasingly a part of our lives and their use seems to expand from day to day. They have their uses and benefits but also present us with new challenges and issues that need to be addressed. This is not the place to discuss the existential or philosophical dimensions of AI usage, but rather to try to contextualize its use within the confines of the extended essay. Even though the IB has not banned the use of AI-powered tools, this does not mean they can be used freely and in every situation. The rules governing academic integrity must still be strictly adhered to. As such, it is vital to understand both positive and negative uses of AI-powered tools.

### Note

Much care should be taken to check the claims (fact-checking) of generative AI. AI tools which cite their sources are better for the purposes of the extended essay than those that do not; however, all AI tools make (sometimes large) errors and can generate incorrect information.

### Positive usage

AI-powered tools can be helpful for:

- giving you some initial ideas. Prompting it with questions such as “What are some key debates around the topic of why the Vikings disappeared from Greenland?” may offer you a starting point on the types of things to begin researching in more detail while also providing you with some initial sources to review
- locating some source materials. Having said that, care should be taken to ensure the sources it directs you to are accurate, relevant to your study and can be classified as reputable (if you are being directed to general web pages or websites with no author evident then it is best to look elsewhere and keep researching)
- rechecking some of your findings. For example, if you have conducted your own count of the number of times the temperature exceeded 30°C in Paris between 1998 and 2023, then ask an AI-powered tool to complete the check for you again
- visualizing a specific data set or generating an image that illustrates something you are writing about. For example, asking it to create a basic pencil-like drawing of the water cycle and including elements A and B. Do note that you would need to cite this as you would any image that you used from a source not of your own making
- identifying basic spelling mistakes and grammatical errors (as most word-processing software does automatically) so that you may consider alterations or edits to your work.

### Negative usage

AI-powered tools can present issues and problems if:

- you use an AI tool to write your essay or parts of your essay for you. Even if you prompted it with all the key points you wished to discuss and signposted it to the authors’ work you wanted to cite, it would still fall foul of the rules governing academic integrity, so **never** use it for this purpose
- you ask an AI tool to reduce the word count of your essay. Editing your work to fit the word count is your job and should not be done by anyone else or an AI
- you rely on an AI as your main source of information (factual or otherwise). You should always try to locate original, reliable and valid source materials from reputable institutions, produced by recognized specialists in the field or (as is often the case with experiments) able to be verified or validated through a reproduction of the experiment.



## Worksheet: Plagiarism test

Below are a series of real-life scenarios that you might encounter when deciding whether to cite material or not. Select the correct response in each situation.

1. You read an article in <i>Discover Magazine</i> and you recall some facts that you use in a homework essay.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
2. You download a JPG image from the internet and use it in one of your assessments.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
3. You encounter the phrase "best thing since sliced bread" in a novel and use it in one of your own writing tasks.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
4. You find the perfect image for your extended essay on the internet labelled "copyright free".			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
5. You interview your grandfather about his experiences during the Falklands War and include his answers in your extended essay.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
6. You are a passionate fan of Lionel Messi. You can reel off facts and statistics from memory. You write a report on your childhood hero.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
7. You encounter the term "tsunamail" in an article describing the flood of emails one receives. You use this term in your essay.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
8. You find the exact sentence "Water is made up of two molecules of hydrogen and a single molecule of oxygen" in more than 100 websites. You use it in your essay.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
9. You use information from a Japanese-language magazine and use self-translated ideas from it in your essay.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
10. You contact an artist whose work you wish to use and they give you permission in an email.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>
11. You write a paragraph made up of no more than 10 words taken from various sources that you've joined together.			
Cite	<input type="checkbox"/>	Don't cite	<input type="checkbox"/>







12. You write a paragraph using ideas from a history book. You directly quote one sentence from the source which you place within inverted commas and include an in-text citation after it.

Plagiarism

Not plagiarism

13. You ask an AI-powered tool a question about the role enzymes play in metabolism and it produces the following line: "They speed up the rate of chemical reactions by lowering the activation energy required to start the reaction". You include this line in your essay without any citations or referencing.

Plagiarism

Not plagiarism

14. You ask an AI-powered tool to list all the times Michael Jordan scored 40 or more points between 1995 and 1996 and then check the answer against your own count that you have done based on your analysis of score sheets. You include the answer as part of your essay.

Cite

Don't cite

Answers with explanations can be found on page 162 so that you can check your own responses once you're done.

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## Answers to quiz in Chapter 1 (pages 18–19)

1. b	2. a	3. a	4. c	5. b	6. d
7. d	8. c	9. c	10. d	11. d	12. b

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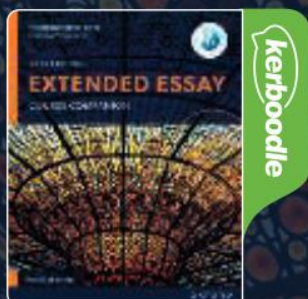
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