|  | **CERTAINTY** |
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| **Understanding the 12 key concepts*** *The 12 key concepts are ones that have been identified as having a particular significant relationship to knowledge.*
* *Understanding, exploring, and using these concepts will help you to understand the way knowledge is produced and used, within the core and optional themes, and the areas of knowledge.*
* *You should also try to use the key concepts as extensively as possible in the two TOK assessment tasks.*
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| **Starting points for certainty*** How many online definitions can you find for ‘certainty’?
* Which one do you think best sums up this concept, and why?
* Which of the quotes below do you think provides us with the best insight into certainty? Are there any you disagree with?
* What are you certain of - and what makes you able to say that?
 | **Quotes on certainty*** The only certainty is that nothing is certain. [*Pliny the Elder*](https://en.wikipedia.org/wiki/Pliny_the_Elder)
* Dogmatism and skepticism are both, in a sense, absolute philosophies; one is certain of knowing, the other of not knowing. What philosophy should dissipate is certainty, whether of knowledge or ignorance. [*Bertrand Russell*](https://en.wikipedia.org/wiki/Bertrand_Russell)
* The quest for certainty blocks the search for meaning. Uncertainty is the very condition to impel man to unfold his powers. [*Erich Fromm*](https://en.wikipedia.org/wiki/Erich_Fromm)
* Facts matter not at all. Perception is everything. It's certainty. [*Stephen Colbert*](https://en.wikipedia.org/wiki/Stephen_Colbert)
* Moral certainty can deafen people to any truth other than their own. [*Geraldine Brooks*](https://en.wikipedia.org/wiki/Geraldine_Brooks_%28writer%29)
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| **Interlinking the key concepts*** To be certain of something, do we have to have **evidence**?
* Does certainty mean there can/should only be one **interpretation**?
* Does **objectivity** lead to certainty?
* Is it our **responsibility** only to make claims about things we are certain about?
* Is certainty the same as **truth**?
 | **Relating certainty to the TOK course*** In which AOKs are we able to make the most and least certain claims about knowledge?
* Why does this variance exist?
* Does language allow us to be more certain about knowledge?
* Do our political and religious affiliations strengthen or undermine our certainty?
* Does technology help us to be certain about the world?
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| **Relating certainty to the TOK exhibition*** IAP-8: Think about whether it is possible to be certain about the world
* IAP-25: Think about the comparative role of certainty in knowledge, belief, and opinion
* IAP-33: Think about our level of certainty changes over time, and also how our understanding of certainty has developed
 | **Relating certainty to the Big Questions** * [**BQ1**](https://theoryofknowledge.net/members/6bq-framework/bq1-foundations/) What can you be certain about?
* [**BQ2**](https://theoryofknowledge.net/members/6bq-framework/bq2-values/) To what extent can we be certain about our values?
* [**BQ3**](https://theoryofknowledge.net/members/6bq-framework/bq3-spin/) How do different forms of communication affect our ability to be certain about the world?
* [**BQ4**](https://theoryofknowledge.net/members/6bq-framework/bq4-perspectives/) Does the existence of different perspectives prove that certainty is impossible?
* [**BQ5**](https://theoryofknowledge.net/members/6bq-framework/bq5-creativity/) Knowledge changes over time - so can we ever be certain about anything?
* [**BQ6**](https://theoryofknowledge.net/members/6bq-framework/bq6-experts/) Do expert knowers aspire to, or avoid, being certain about the world?
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| **Real-world contexts for certainty**The media sources below explicitly mention certainty (or uncertainty), and discuss this key concept in a real-world context. Use the find command (ie Command/Control+F) to locate the term in the article or transcript of the video, and you’ll see where it features. Check back regularly, as we update these media sources every month.  |
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| ***Big Question / knowledge framework***  | ***Description of media source and story and links to the course*** |
| BQ1 */* Nature & scope | A [**Big Think**](https://bigthink.com/hard-science/einstein-bohr-quantum-entanglemen/) article, discussing how quantum entanglement indicates that uncertainty is built into the structure of the Universe. [*Natural sciences*](https://theoryofknowledge.net/areas-of-knowledge/natural-sciences/)*,* [*Mathematics*](https://theoryofknowledge.net/areas-of-knowledge/mathematics/)*,* [*Technology*](https://theoryofknowledge.net/the-tok-course/tok-optional-themes/knowledge-and-technology/)A [**New Humanist**](https://newhumanist.org.uk/articles/5875/cave-paintings-of-animals-show-a-quest-for-knowledge-a-sense-of-admiration-and-love) interview with John-Paul Stonard, who talks about his new book tracing the evolution of art from cave paintings to the contemporary era. [*The arts*](https://theoryofknowledge.net/areas-of-knowledge/the-arts/)An [**FT**](https://www.ft.com/content/fe4e658e-0473-4f98-b995-4606aefa90bc) article, considering the difficulties of linking extreme weather to climate change, in the wake of the fires and floods that have recently affected countries around the world. [*Natural sciences*](https://theoryofknowledge.net/areas-of-knowledge/natural-sciences/)*,* [*Technology*](https://theoryofknowledge.net/the-tok-themes/tok-optional-themes/knowledge-and-technology/)*,* [*Mathematics*](https://theoryofknowledge.net/areas-of-knowledge/mathematics/)*,* [*Politics*](https://theoryofknowledge.net/the-tok-themes/tok-optional-themes/knowledge-and-politics/)*,* [*Knowledge & the knower*](https://theoryofknowledge.net/the-tok-themes/knowledge-and-the-knower/)A [**BBC**](https://www.bbc.co.uk/ideas/videos/why-getting-things-wrong-is-good-for-science/p09mb351) video, considering why the emergence of new facts about the world strengthens rather than undermines science. [*Natural sciences*](https://theoryofknowledge.net/areas-of-knowledge/natural-sciences/)*,* [*human sciences*](https://theoryofknowledge.net/areas-of-knowledge/human-sciences/) |
| BQ4 / Perspectives | Two articles - from the [**Guardian**](https://www.theguardian.com/commentisfree/2021/dec/29/climate-scientist-dont-look-up-madness) and the [**Conversation**](https://theconversation.com/dont-look-up-hollywoods-primer-on-climate-denial-illustrates-5-myths-that-fuel-rejection-of-science-174266) - look at what we can learn about climate denial from the movie *Don’t Look Up*. Links to [*Natural sciences*](https://theoryofknowledge.net/areas-of-knowledge/natural-sciences/)*,* [*The arts*](https://theoryofknowledge.net/areas-of-knowledge/the-arts/)A [**National Geographic**](https://www.nationalgeographic.com/science/article/struggling-to-assess-pandemic-risks-youre-not-alone) article, which analyzes the different ways in which people assess the risks associated with the Covid pandemic. [*Knowledge & the knower*](https://theoryofknowledge.net/the-tok-themes/knowledge-and-the-knower/)*,* [*Natural sciences*](https://theoryofknowledge.net/areas-of-knowledge/natural-sciences/)*,* [*Mathematics*](https://theoryofknowledge.net/areas-of-knowledge/mathematics/) |
| BQ5 / Methods & tools | A [**Slate**](https://slate.com/technology/2022/06/bridle-ways-of-being-excerpt-computer-randomness.html) article, considering why computers on their own can’t generate random numbers, and the methods used to overcome this problem. [*Technology*](https://theoryofknowledge.net/the-tok-course/tok-optional-themes/knowledge-and-technology/)*,* [*Mathematics*](https://theoryofknowledge.net/areas-of-knowledge/mathematics/)*,* [*Politics*](https://theoryofknowledge.net/the-tok-course/tok-optional-themes/knowledge-and-politics/)A [**Big Think**](https://bigthink.com/thinking/the-voltage-effect/) article, exploring the experiments that led to the discovery of three cognitive biases. [*Knowledge & the knower*](https://theoryofknowledge.net/knowledge-and-the-knower/)*,* [*Human sciences*](https://theoryofknowledge.net/areas-of-knowledge/human-sciences/)A [**Guardian**](https://www.theguardian.com/commentisfree/2022/jan/26/mathematicians-covid-projections-modelling) article which looks at the way mathematics is used to predict the future, particularly in terms of how Covid is likely to develop. [*Mathematics*](https://theoryofknowledge.net/areas-of-knowledge/mathematics/)*,* [*Natural sciences*](https://theoryofknowledge.net/areas-of-knowledge/natural-sciences/)*,* [*Human sciences*](https://theoryofknowledge.net/areas-of-knowledge/human-sciences/)A [**Discover**](https://www.discovermagazine.com/mind/why-are-people-so-into-astrology-all-of-a-sudden) magazine article, exploring the upsurge in popularity of astrology. [*Knowledge & the knower*](https://theoryofknowledge.net/the-tok-themes/knowledge-and-the-knower/)*,* [*Natural sciences*](https://theoryofknowledge.net/areas-of-knowledge/natural-sciences/)*,* [*Technology*](https://theoryofknowledge.net/the-tok-themes/tok-optional-themes/knowledge-and-technology/)A [**New York Times**](https://www.nytimes.com/interactive/2021/01/29/arts/design/juan-gris-cubism-collage.htm) article, which looks at the “greatest breakthrough in the history of 20th century art”. [*The arts*](https://theoryofknowledge.net/areas-of-knowledge/the-arts/) |
| BQ6 / Methods & tools | A [**Wired**](https://www.wired.co.uk/article/citizen-science-water-safecast) article, looking at how ordinary people are increasingly helping to gather data about the natural sciences. [*Natural sciences*](https://theoryofknowledge.net/areas-of-knowledge/natural-sciences/)*,* [*Language*](https://theoryofknowledge.net/the-tok-course/tok-optional-themes/knowledge-and-language/)An [**Atlantic**](https://www.theatlantic.com/podcasts/archive/2021/10/mindfulness-curiosity-arthurbrooks-ellenlanger-howto-2021/620283/) podcast, in which the Harvard psychologist Dr Ellen Langer asserts that being curious about the world is based on accepting there are gaps in your knowledge. [*Knowledge & the knower*](https://theoryofknowledge.net/the-tok-themes/knowledge-and-the-knower/)A [**History Today**](https://www.historytoday.com/archive/out-margins/never-ending-process) article, looking at how history is a “never ending process”, and that it’s vital to have the ability to change your mind about your conclusions and judgements. [*History*](https://theoryofknowledge.net/areas-of-knowledge/history/)*,* [*Human sciences*](https://theoryofknowledge.net/areas-of-knowledge/human-sciences/)*,* [*Knowledge & the knower*](https://theoryofknowledge.net/the-tok-themes/knowledge-and-the-knower/)*,* [*Language*](https://theoryofknowledge.net/the-tok-themes/tok-optional-themes/knowledge-and-language/)An [**Aeon**](https://aeon.co/essays/real-experts-know-what-they-dont-know-and-we-should-value-it) essay, looking at the relationship between certainty and expertise about knowledge. [*Knowledge & the knower*](https://theoryofknowledge.net/the-tok-themes/knowledge-and-the-knower/)*,* [*human sciences*](https://theoryofknowledge.net/areas-of-knowledge/human-sciences/)A [**Conversation**](https://theconversation.com/retractions-and-controversies-over-coronavirus-research-show-that-the-process-of-science-is-working-as-it-should-140326) article, which argues that the retractions, u-turns, and controversies over our knowledge of coronavirus shows that science is working as it should. [*Human sciences*](https://theoryofknowledge.net/areas-of-knowledge/human-sciences/) |