The following activities are designed to stimulate a current events discussion. Generative in nature, these questions can be a launching point for additional assignments or research projects. Teachers are encouraged to adapt these activities to meet the contextual needs of their classroom. In some cases, reading the article with students may be appropriate, coupled with reviewing the information sheet to further explore the concepts and contexts being discussed. From here, teachers can select from the questions provided below. The activity is structured to introduce students to the issues, then allow them to explore and apply their learnings. Students are encouraged to further reflect on the issues.

Core Skill Sets:
These icons identify the most relevant core skills students will develop using this resource. Learn more about the WE Learning Framework at www.WE.org/we-at-school/we-schools/learning-framework/.

NOTE TO EDUCATORS
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KEY TERMS

Cultural cognition—The phenomenon whereby people’s identities, politics and cultural values shape perceptions, attitudes, and interpretation and understanding of science.

Scientific consensus—Born from an overwhelming agreement between scientists of varying fields of study regarding a particular issue at hand, scientific consensus does not mean an issue has been settled, but it generally reflects an accepted starting point.

Scientific method—A procedure of hypothesis, observation, measurement and experimentation.

BACKGROUND INFORMATION

• The vast majority of people surveyed have a positive view of scientists (79 percent), but a large gap exists between what scientists believe and what the majority of people believe (Pew Research Center)
  • 88 percent of scientists believe it’s safe to eat genetically modified food vs. 37 percent of adults
  • 89 percent of scientists are in favour of using animals in research vs. 47 percent of adults
  • 68 percent of scientists believe it’s safe to eat foods grown with pesticides vs. 28 percent of adults
  • 98 percent of scientists believe human evolved over time vs. 65 percent of adults
  • 87 percent of scientists believe climate change is mostly due to human activity vs. 50 percent of adults
  • Whether people believe in evidence-supported ideas (such as the reality of climate change or the need for vaccines) has less to do with if they trust scientists or know science and more to do with cultural cognition. (The Atlantic)
  • Recent studies show that people who are the most well informed on a subject also happen to be the most partisan (ideology and politics colour the way we interpret facts). (Vox)
  • Recent cutbacks by the federal government in the United States threaten the quality of scientific research performed by the Environmental Protection Agency, National Institutes of Health and the Food and Drug Administration. (New York Times)
  • In 2013, Canadian scientists protested in Ottawa, marching on Parliament Hill to demand that the federal government stop infringing on scientists’ research. (The Toronto Star)
  • On Earth Day (April 22), American scientists will protest in Washington, demanding more evidence-based policy making. (Salon)
THEMES AND COURSE CONNECTIONS

• Themes: Environment, Global Issues, Health, Local Issues, Values and Ethics
• Course Connections: Science

MATERIALS

• Front board
• Paper and writing utensils
• Computer/tablet with Internet access and video capability
• Tape and index cards/sticky notes

SPECIFIC EXPECTATIONS AND LEARNING GOALS

Students will:

• Develop an understanding of scientific literacy and how it impacts everyday life
• Recognize how scientific literacy helps to make informed decisions

DISCUSS

1. In your opinion, how do the authors define science?
2. What is scientific curiosity? How is it similar to or different from scientific literacy?
3. Why are we often more influenced by the opinions of others rather than the facts?
4. Do you have to be formally trained in science to be scientifically literate?

DIVE DEEPER

Show students the videos from the Science Genius B.A.T.T.L.E.S. (Bring Attention to Transforming Teaching, Learning and Engagement in Science) project.

• “Who Is the Next Science Genius?” https://www.youtube.com/watch?v=-9rGb7muhTI (5:17)

Using a think-pair-share strategy, ask students to briefly discuss the following questions with a partner:

• What is the purpose of the project?
• What would motivate a student to participate?
• What impact does this project have, not only on the students participating, but on the audience as well?

Place a strip of tape on the floor and attach the labels: Strongly Agree, Somewhat Agree, Neutral, Somewhat Disagree, Strongly Disagree evenly along the tape.

Ask students to listen to the following statements and place themselves in a position on the line that aligns with their opinion. Present students with statements such as “Climate change is caused by human activity,” “Makeup and other beauty products should not be tested on animals” and “It should be mandatory for children to be vaccinated before starting school.” As students move to different places on the line, ask them to justify their opinion. What informed their opinion? Where did they get their information (internet research, social media, discussions with friends and family)? How do they know if the information is factual? What would make them consider changing or altering their opinion? If they are neutral, why do they not have an opinion on that issue? What are the potential consequences of not having information on this issue?

Remind students that this activity is not designed to prove that one side is right or wrong; its purpose is to encourage students to think about how they form their opinions and where they get their information from. Ensure that students are using considerate and respectful language and that everyone can express their opinion in a safe environment.

Tell students that the ability to ask questions and find information about scientific concepts and process is called scientific literacy. People who are scientifically literate can use this information to make important decisions about what they believe in, who they will vote for or what they will buy. As a class, read the Global Voices article and discuss the questions from the Discuss section.

In the same partners as before, ask students to choose one of the following scenarios and discuss how being scientifically literate could help the person make an informed decision:

• A girl buying her first car
• A family deciding which cleaning products to use in their home
• A father buying groceries for his children
• A boy voting in his first election
• A woman trying to reduce the cost of her energy bill

Ask students to record what they discussed with their partner in a short paragraph or share orally with the class. In addition, students can describe a specific situation in their life where being more scientifically literate could have helped them make a more informed decision.

RESOURCES

“Scientific Literacy - Neil deGrasse Tyson” https://vimeo.com/88193574 (2:52)