



Science Literacy

Why do we celebrate reading literacy, yet often disregard science literacy? Join Dr. B as he unravels this conundrum and advocates for a science-informed society.



Watch the show!



<https://www.youtube.com/watch?v=jgHkTS72LAs>

Quick Questions

1. Have you ever heard of the term "science literacy" before?
2. Do you consider yourself scientifically literate?
3. Scientific literacy isn't about knowing everything. In fact, a big part of it is recognizing when you don't know the answers. You must put in the effort to find the answer when you don't know.
 - a. How do you feel when you don't know something?
 - b. Does the fact that scientific literacy isn't about knowing everything change your answer to #2?
4. Do you think science illiteracy is a problem in today's society?



Deep Dives

1. What does it mean to you to be scientifically literate? Can science literacy be measured? If so, how? If not, why not?
2. Some people may think science seems intimidating, or "hard," or "just another subject in school," so they don't try to understand it better. This is a perceived and imaginary barrier that can lead to science illiteracy. What would you say to someone who feels like they can't learn science because it's "hard"?
3. Everyone gets science wrong sometimes. It might be an honest mistake (we call this misinformation). Or it might be intentional miscommunication to push an agenda (this is called disinformation). Is it possible to tell the difference? How might you react when you know that someone is communicating science incorrectly? Does your response change depending on whether it's misinformation or disinformation?
4. Dr. B encourages scientists to do their part to support interest in science literacy. This includes talking "to people, and not down to people." Would this help you or anyone you know to see science and science literacy more favorably? What are some other ways you think scientists could effectively encourage people to adopt scientific literacy?
5. Some people may consider themselves scientifically literate, but they may have gained their knowledge through sources with flawed information. Thus, their understanding of a science topic may be incorrect. How do sources of information impact an individual's ability to understand science? How can you know if the information you're getting is reliable? What steps might you take to improve your own and your community's science literacy?

Engaging in Science Discussions



Recommended Grade Level: Middle and High School

Objective: To engage in open-ended discussions about critical science topics. While leading these discussions, it is important to ensure that everyone is heard, and everyone is treating one another with respect. There is no “right answer” during these discussions, and it’s okay to respectfully disagree.

Additional Notes: We recommend having these discussions multiple times with the same group of participants. This provides the opportunity to explore different topics and improve one’s abilities to have successful conversations about STEM topics. Quick Questions are optional and are recommended to be used as warm-up questions.

Materials: TV or projector Paper and writing utensils

TIMELINE (30 – 40 MINUTES)

5 min	10 min	5 min	10 min	10 min <i>(optional)</i>
Intro + prompts	Watch segment	Think/write time	Share with partner	Small groups

Intro (5 min) Before starting, select one Deep Dive question. Tell the group you will be asking them a question that has no right or wrong answer. After they watch the clip, they will have time to think about and write their response. They will share their response with a partner or small group. Now share the question you selected.

If participants are new to these sorts of discussions, you may want to review the following concepts:

- When you are sharing your responses, provide reasoning and evidence. Reasoning is your own thinking behind your answer. Evidence is facts that support your answer, such as historical facts or scientific facts. You may also have experiences from your own life that support your answer.
- When listening to your classmates, ask questions. The purpose of questions is to better understand their thought process, not to challenge them. Some ways to frame questions are: “I didn’t understand X.” “Could you explain Y again?” “What do you mean by Z?”
- If someone asks you questions, provide clarification. Explain your reasoning and evidence. Remember that there are no right or wrong answers.

Watch the segment (10 minutes)

Think/write time (5 minutes): Participants write down their answers

Share with a partner (10 minutes): Pair up participants. Each person has 5 minutes to share their response and answer questions from their partner. Then switch so each partner gets a turn.

(Optional) Small groups (10 minutes): Put participants in groups of 4 for share-outs and conversations.

(Optional) Homework prompts: Expand your response into a report, picture, poem, essay, short story, song, or performance. Or, write your own discussion question for the group.