

Science Textbook



Science Text

The following passage has been adapted from a business textbook. Read the passage and answer the questions that follow.

A growing body of research results on student understanding of chemistry indicates, pretty emphatically, that we need better ways to teach and assess students' understanding of the fundamental ideas upon which chemistry is based. These are important ideas that students need to learn, and learn in a robust way that enables them to transfer their understanding to new situations rather than just remember what they were told. It would be even better if we could cultivate an appreciation for how science works and, in our most ambitious moments, light a spark of enthusiasm for the beauty, unity, and bizarre processes that make up the natural world. Our problem is how to approach the Socratic ideal in a practical and economically feasible manner.

In this light, we should 'fess up to where we stand on a number of important issues—we unambiguously accept the liberal ideals of the Enlightenment, namely that intellectual honesty and rigor, rational and logical discourse, and free and dispassionate analyses, together with compassion and empathy, something all too often forgotten by revolutionaries, are critical, both in the context of the scientific enterprise and more generally in making the world a better place for all of its inhabitants.

Adapted from [Clue: Chemistry, Life, The Universe and Everything](#)

Science Textbook

Questions:

1. Is there any contextual or cultural background knowledge needed to understand this passage?
2. Are there any phrases or idioms that would impede comprehension for an English Language Learner?

Brainstorm:

Brainstorm some ways that this text could be modified or delivered to support greater inclusivity and accessibility. Write your answers below.



Textbook Analysis Science

Answers:

1. This passage focuses on the Socratic Ideal and liberal ideas of the Enlightenment. Both concepts are Western-centric and might be inaccessible to students.
2. This passage contains the phrase 'fess up, which needs explanation.

Possible modifications to the text:

1. If a passage assumes cultural background knowledge, provide this information in advance of reading.
2. Create a glossary for vocabulary and include slang or idioms.

Possible modifications to delivery:

1. Whenever possible, provide students with a choice of materials. Give students the opportunity to contribute materials that reflect their worldviews and experiences.
2. When discussing materials, give students a chance to critically reflect on the worldviews presented and consider other perspectives.