Bethany Collchay’s parents want Bethany to believe exactly what it says in the Bible. The Bible says that God created human beings and all the plants and animals. At Bethany’s school, however, the science teacher says that living things evolve. This idea was first written about in a book by Charles Darwin that came out in 1859. Darwin’s theory of evolution says that humans and other animals developed from common ancestors over millions of years. This theory explains similarities and differences among species. It also explains why some species survived while others became extinct. When scientists study fossils from millions of years ago, they find evidence that supports what Darwin said. Changes in flu viruses and in color patterns on birds and fishes show that evolution is going on right now.

While scientists say that evolution is undeniable, and point out that it is taught in all developed countries, people like Bethany’s parents have the right to their religious beliefs. They don’t want anything to threaten their child’s religious beliefs. When schools teach about evolution, some people fear a child’s belief in creationism could be threatened. So such people are asking schools to teach intelligent design along with evolution. The central concept behind intelligent design is that living things must have been designed by an intelligent being. Supporters ask us to think about the eye. An eye has to be created all at once with all its parts, they say, or it won’t work. Even though the law in America does not allow public schools to teach religion, intelligent design doesn’t name the designer or use the word “God,” so many argue that teaching about it would not break the law.

Scientists, however, are against teaching intelligent design. They say intelligent design is not science. It doesn’t explain how living things came about or why some are like each other. It doesn’t fit with evidence, and it doesn’t predict anything. Therefore, intelligent design is not a scientific perspective, but a religious one.

What do you think? Should schools teach intelligent design along with evolution?

Questions for Classroom Discussion:
- What is the difference between evolution and creationism?
- What is the relationship between creationism and intelligent design?
- Why are scientists against teaching intelligent design?
- Do you think that what a student learns in school might threaten his or her religious beliefs?

Series 2B, Unit 2.17, Word Generation
USE THE FOCUS WORDS  * and alternate parts of speech

design (noun) a plan or drawing

- Sample Sentence: The basic design of a bicycle has changed very little over the last fifty years.
- Turn and Talk: In your opinion, which smartphone has the best design? Explain your answer.

*design (verb) to plan; to make

- Sample Sentence: Scientists worked for years to design solar panels that turn light from the sun into usable energy.
- Turn and Talk: If you could design a pair of shoes for the future, what would they look like?

creationism (noun) the belief that the world was made by an intelligent force

- Sample Sentence: When schools teach about evolution, some people fear a child’s belief in creationism could be threatened.
- Turn and Talk: Which do you remember learning about first: creationism or evolution?

concept (noun) an idea

- Sample Sentence: The central concept behind intelligent design is that living things must have been designed by an intelligent being.
- Turn and Talk: What is your concept of good manners?

evolve (verb) to change over time

- Sample Sentence: At Bethany’s school, however, the science teacher says that living things evolve.
- Turn and Talk: As you’ve gotten older, how have your ideas about friendship evolved?

perspective (noun) a point of view

- Sample Sentence: Therefore, intelligent design is not a scientific perspective, but a religious one.
- Turn and Talk: What is your perspective about junk food advertising in schools? Should it be allowed?
DO THE MATH

Scientists believe that humans and chimpanzees both evolved from an ancestor that lived 5 to 7 million years ago. Supporters of intelligent design disagree. In the poll below, people give their perspectives on the debate.

In a June 2007 poll by USA Today/Gallup, people were asked what they thought about evolution, or the concept that humans and apes have a common ancestor. People gave the following answers:

Option 1: Which of the following is true?

A. Half of the people polled thought evolution was probably or definitely true.
B. More than half of the people polled thought evolution was probably or definitely true.
C. Less than half of the people polled thought evolution was probably or definitely true.

Option 2: According to this poll, what was the probability that any two people chosen at random both thought that evolution was probably or definitely true?

\[ .53 \times .53, \text{ or about } 28\% \]

Discussion Question: Fifty-three percent of the people in this poll thought that evolution was probably or definitely true. On the other hand, 44% responded that evolution was probably or definitely false. Many people who do not believe in evolution think that creationism and/or intelligent design are better explanations for where human beings came from. Why do people disagree so strongly about the concept of evolution? From your perspective, does this disagreement make sense? Do you have strong feelings about evolution?
Ms. Kahn’s science class is studying the concept of natural selection. Charles Darwin used this concept to explain how living things evolve over time. Some students, however, don’t believe in Darwin’s explanation.

“I think that learning about evolution in science class conflicts with my religious perspective,” says Victor. “I’ve learned about intelligent design, and my dad says it should be considered a scientific theory just like Darwin’s.”

“What?!” exclaims Kareema. “Intelligent design isn’t scientific at all! My mom says it’s creationism disguised as science. If some intelligent being created and designed all life on Earth, then who or what created that intelligent being? Can you and your dad explain that, Victor?”

“Hold on, Kareema,” says Ms. Kahn. “We can address your disagreement with Victor by investigating how we decide if something is indeed ‘science.’ Let’s consider some criteria for what makes a theory scientific, and then you and Victor can decide for yourselves.”

Kareema and Victor looked online and found the following list of criteria for judging whether or not a theory is scientific.

For a theory to qualify as “scientific” it should have most or all of the following characteristics. It should be...

- consistent (not contradicting itself)
- as simple as possible (not proposing elaborate explanations that go beyond available evidence)
- useful (explaining past observations and making predictions about future observations)
- testable (able to be confirmed or disproved by experiments or observations)
- replicable (supported by repeated observations or experiments producing the same results)
- progressive (improving on previous theories)
- revisable (open to change based on new evidence)

With a partner, discuss whether or not intelligent design is a scientific theory based on the above criteria. Try to use the focus words (design, creationism, concept, evolve, and perspective).

Note: Most scientists do not regard intelligent design as a scientific theory. Among other objections, scientists typically argue that intelligent design fails the following:

- Simplicity test (by positing an intelligent agent as the source of life without explaining the source of that intelligent agent)
- Usefulness, testability, and replicability tests (because it does not point to predictions that could be empirically tested in controlled, repeated experiments to confirm or disprove the theory)
- Revisability test (because the conclusions of intelligent design seem fixed—for example, when shown evidence of “bad design” in nature, defenders of intelligent design often argue that the designer may have motives that we cannot understand for making things that appear poorly designed, effectively denying the possibility of any evidence that would challenge their theory)

DEBATE THE ISSUE
Pick one of these positions (or create your own).

- **A**
  - [ ] Schools should only teach evolution, the accepted scientific theory.

- **OR**

- **B**
  - [ ] School should allow creationism (intelligent design) to be taught alongside evolution.

- **OR**

- **CREATE YOUR OWN**
  - [ ] ______________________
  - [ ] ______________________
  - [ ] ______________________
  - [ ] ______________________
  - [ ] ______________________

Jot down a few notes on how to support your position during a discussion or debate.

______________________
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Be a strong participant by using phrases like these:

- “Can you show me evidence in the text that…”
- “I believe that…”
- “I agree with you, but…”
- “You make a good point, but have you considered…”
TAKE A STAND

Support your position with clear reasons and specific examples. Try to use relevant words from the Word Generation list in your response.

design | creationism | concept | evolve | perspective

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