Carbon Trackers

Duration: 2 weeks (10 instructional hours)

Driving Question: Where does the energy in fossil fuels come from and where does it go?

Lesson 1:

Tracking Carbon to Understand its Flow
Where is Earth's carbon stored and how does it move among different reservoirs?

Activity 1:
Putting the "Fossil" in Fossil Fuels
(75 mins)

Activity 2:
Researching Fossil Fuels
(50 mins)

Activity 3:
Tracking Down the Carbon
(75 mins)

Lesson 2:

Modeling the Carbon Cycle to Inform Others
How can modeling Earth's carbon cycle help us better understand the importance of fossil fuels?

Activity 1:
Matter and Energy Cycles: Research
(100 mins)

Activity 2:
Matter and Energy Cycles: Modeling
(100 mins)

Activity 3:
Greenhouse Effect
(75 mins)

Lesson 3:

Educate Others to Inspire Action
How can we use our models to educate and inspire others to understand the importance of matter and energy cycling on Earth?

Activity 1:
Final Carbon Cycle Model Creation
(50 mins)

Activity 2:
Carbon Cycle Model Presentation
(100 mins)

PBL Unit Product

Students, in the role of scientists, create a digital or analog model of the carbon cycle including how the water cycle, rock cycle, and photosynthesis and respiration work to move matter and energy through Earth's systems. They use this model during an educational presentation on carbon cycling, highlighting the importance of carefully considering the impacts of fossil fuel use on Earth's systems.