

6.3

CARBON SLEUTH

Can you determine how carbon became a part of the following objects?

Carbon atoms are never destroyed, instead they move around the Earth's atmosphere, oceans, ecosystems, and crust as they change form. The CO_2 that you are exhaling today has been a part of the carbon cycle for billions of years. Imagine the possible pathway the CO_2 took before the respiration process that allowed you to release it back to the atmosphere. In this activity you will work backwards to create a plausible pathway that would explain how a carbon atom became a part of one of the objects below.

MATERIALS

- Carbon-containing objects such as:
 - Chalk
 - Balloon full of air
 - Leafy plant
 - Sea shell
 - Wood
 - Pencil lead
 - Coal
 - Oil
 - Limestone

DIRECTIONS

1. Take an object and determine the form of the carbon as it exists in that object.
2. Create a five-step pathway that can explain where the carbon in the object came from.
Be sure to include the processes that changed the carbon atom from one form to another.

REFLECTION

1. Discuss your pathway with your neighbor and create a list of alternative carbon pathways.

Carbon atom location

Process
