

Carbon Cycle Routes

Track carbon through Earth's systems.

8.11 "Earth and space. The student knows that natural events and human activity can impact global climate. The student is expected to: use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts..."

NAME _____

DATE _____

1 LABEL THE MODEL _____ Word bank below

Write one process from the word bank in each numbered box. Match each process to the arrow that moves carbon from one stage to the next.

WORD BANK

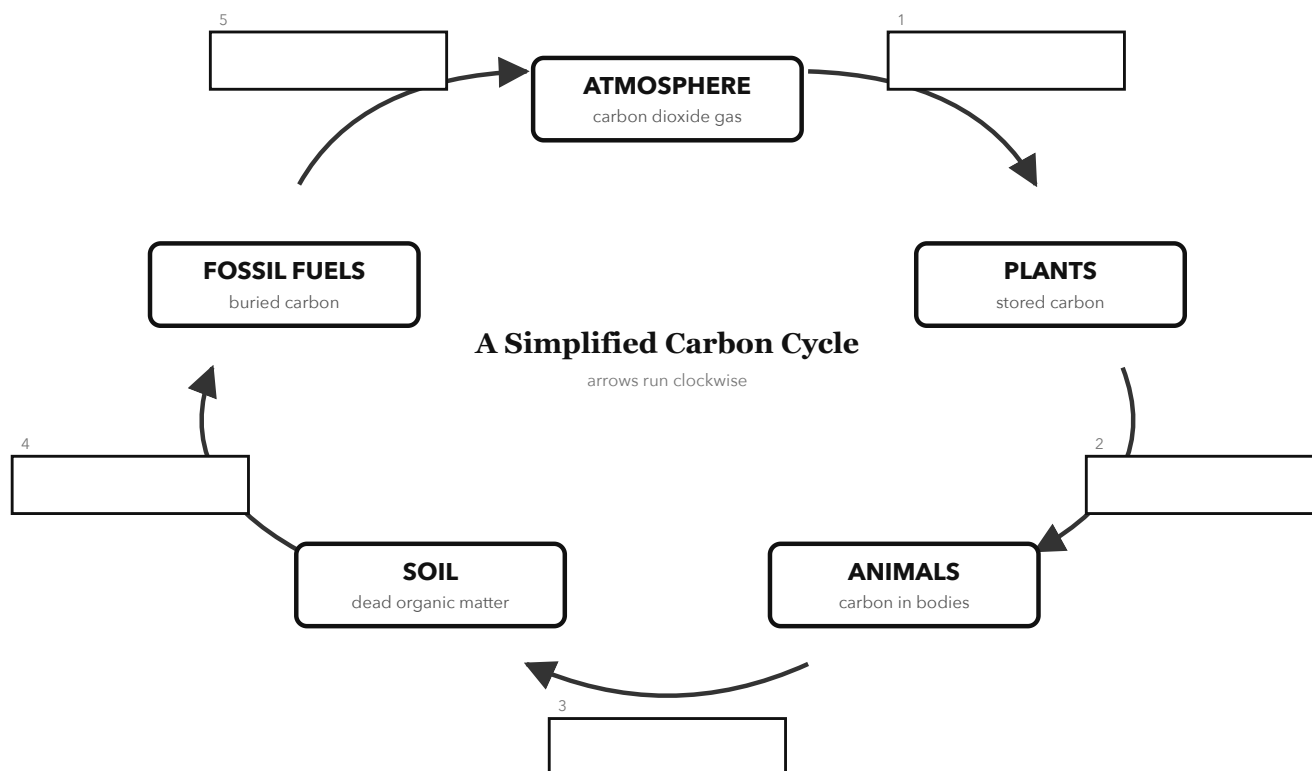
burial and pressure

combustion

death and waste

feeding

photosynthesis



2 RUN THE MODEL Use your finished diagram

1 Which process moves carbon dioxide from the atmosphere into plants?

2 If a forest is cleared, which stage in the model will store less carbon?

3 Fossil fuels are burned. Which stage receives the carbon next, and what process moves it?

3 CHECK IT Before you turn it in

☐ I can trace carbon around the model.

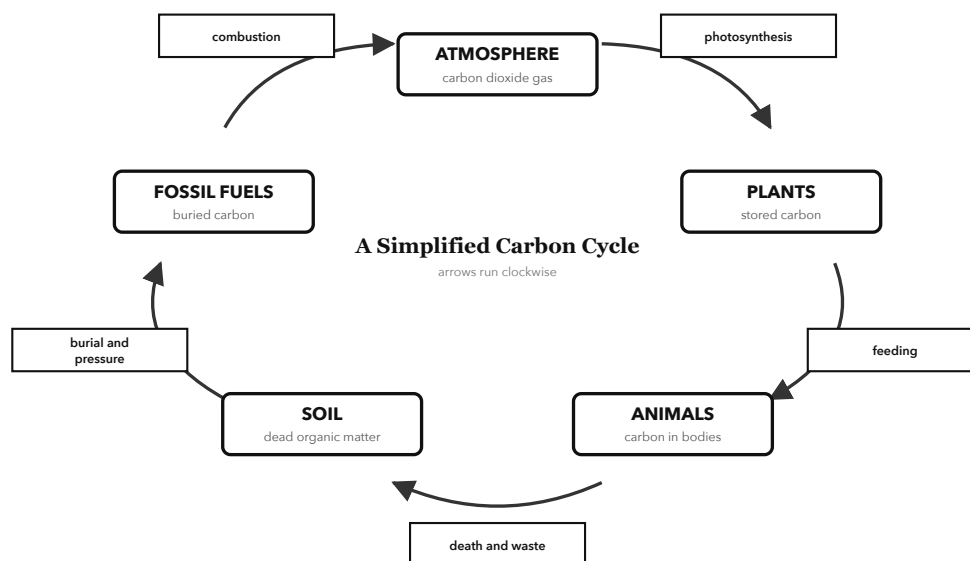
☐ I can identify how carbon enters plants.

☐ I can explain how burning fuels changes atmospheric carbon.

TEST THE MODEL

What is one way the real carbon cycle is more complex than this model?

PART 1 • COMPLETED MODEL



PART 2 • RUN THE MODEL

1. **Photosynthesis.** (Which process moves carbon dioxide from the atmosphere into plants?)
2. **PLANTS.** (If a forest is cleared, which stage in the model will store less carbon?)
3. **ATMOSPHERE, through combustion.** (Fossil fuels are burned. Which stage receives the carbon next, and what process moves it?)

TEST THE MODEL (SAMPLE ANSWERS)

- The real carbon cycle includes carbon moving between the atmosphere and oceans.
- The real carbon cycle includes volcanic eruptions that release carbon dioxide.

The model shows one simplified pathway through the carbon cycle. Accept scientifically accurate wording such as "eating" for feeding and "burning" for combustion.