

Carbon's Round Trip

Track carbon through a living system.

SC.8.L.18.3 "Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment."

NAME _____

DATE _____

1 LABEL THE MODEL _____ Word bank below

Follow the arrows around the cycle. Write one process from the word bank in each numbered box.

WORD BANK

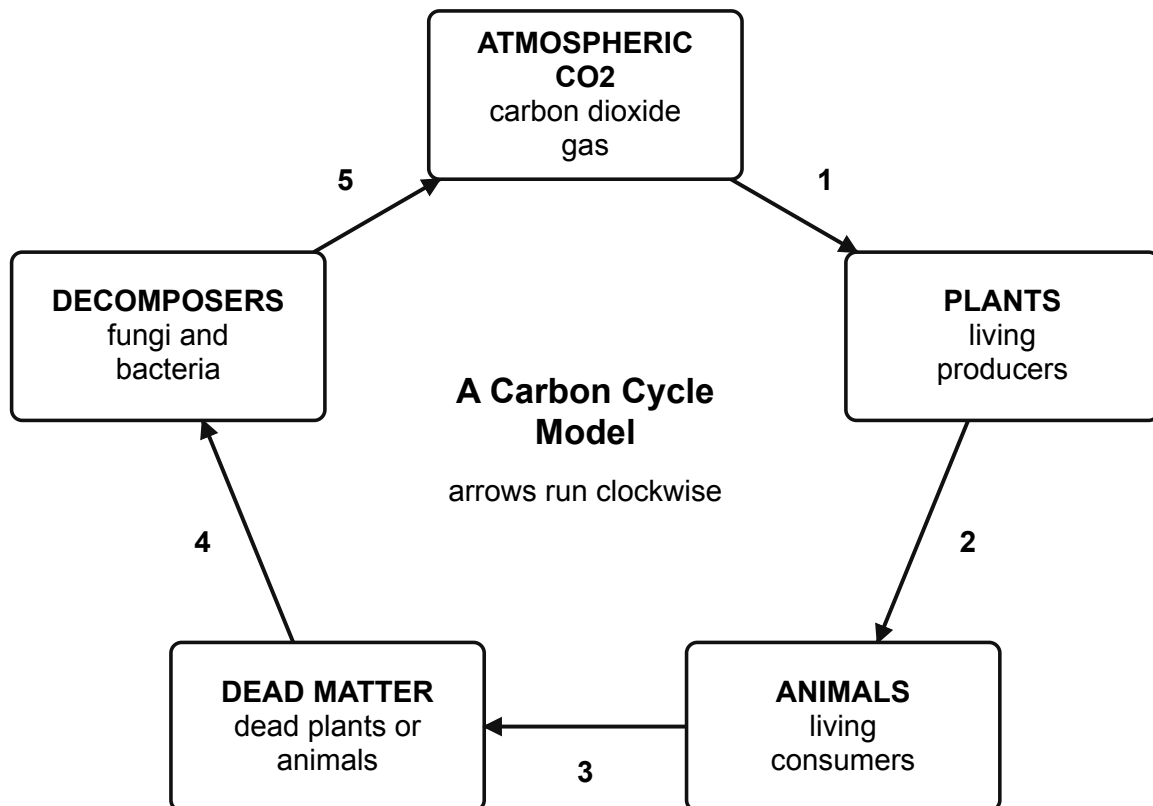
cellular respiration

death

decomposition

feeding

photosynthesis



Arrow numbers match the response boxes on the next student section.

Label the arrows

Use the word bank to write the process for each numbered arrow.

Arrow 1

Arrow 2

Arrow 3

Arrow 4

Arrow 5

2 RUN THE MODEL --- Use your finished diagram

1 Which process moves carbon from ATMOSPHERIC CO₂ into PLANTS?

2 After carbon enters PLANTS, which three stages does it move through before returning to ATMOSPHERIC CO₂?

3 Which process brings energy from sunlight into carbon compounds stored in plants?



CHECK IT

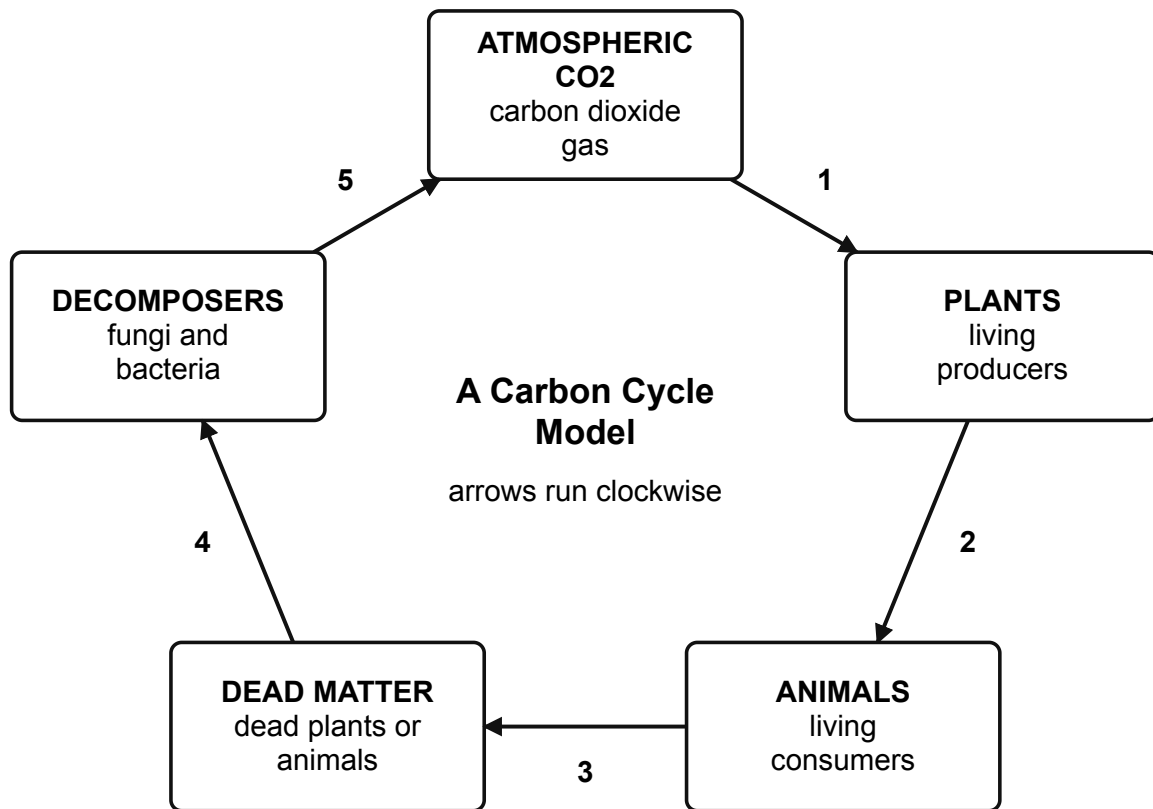
Before you turn it in

- ☐ I placed one process in each box.
- ☐ I can trace carbon around the loop.
- ☐ I can identify where sunlight energy enters the model.

TEST THE MODEL

What is one carbon pathway that this model leaves out of the real carbon cycle?

PART 1 • COMPLETED MODEL

**Arrow 1**

photosynthesis

Arrow 2

feeding

Arrow 3

death

Arrow 4

decomposition

Arrow 5

cellular respiration

PART 2 • RUN THE MODEL

1. **Photosynthesis.** (Which process moves carbon from ATMOSPHERIC CO₂ into PLANTS?)
2. **ANIMALS, DEAD MATTER, and DECOMPOSERS.** (After carbon enters PLANTS, which three stages does it move through before returning to ATMOSPHERIC CO₂?)
3. **Photosynthesis.** (Which process brings energy from sunlight into carbon compounds stored in plants?)

TEST THE MODEL (SAMPLE ANSWERS)

- It leaves out plant and animal respiration, which also return carbon dioxide to the atmosphere.
- It leaves out carbon stored in oceans and rocks.

Arrow answers in order are: 1. photosynthesis, 2. feeding, 3. death, 4. decomposition, 5. cellular respiration. This simplified pathway does not show every carbon reservoir or pathway in the full carbon cycle.