

Matter Makes a Loop

Track carbon dioxide through a simple ecosystem.

4.12.A “investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter;”

NAME _____

DATE _____

1 LABEL THE MODEL _____ Word bank below

Use the word bank to write one process in each numbered box. Put each process on the arrow that moves matter from one stage to the next.

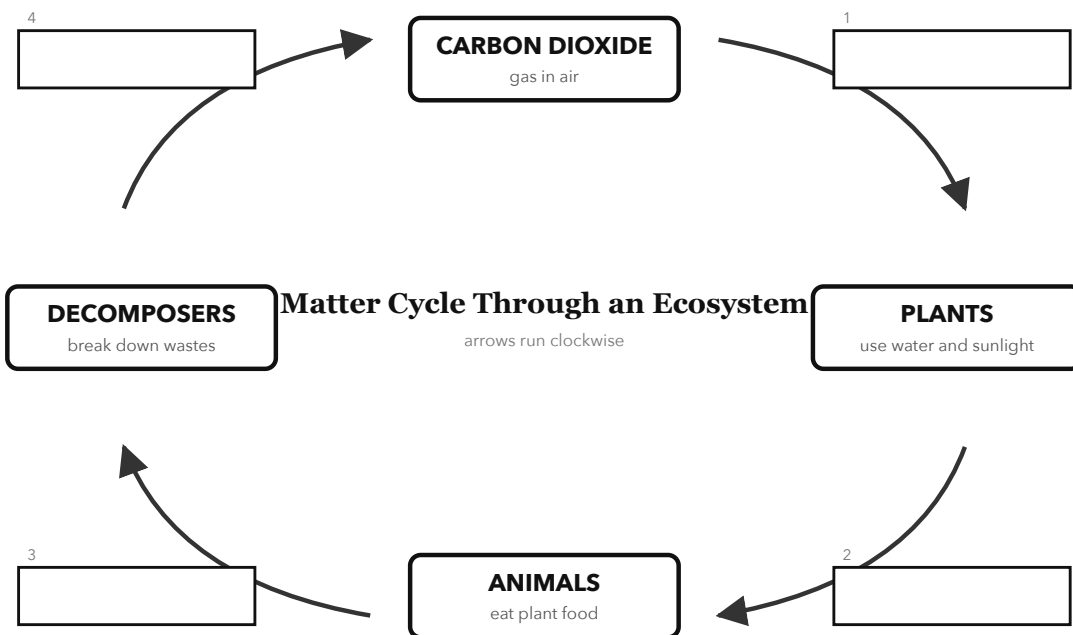
WORD BANK

cellular respiration

death and waste

feeding

photosynthesis



2 RUN THE MODEL Use your finished diagram

1 Which process belongs on the arrow from CARBON DIOXIDE to PLANTS?

2 What three things do plants use to make their own food in this model?

3 After animals die or leave waste, which stage receives that matter next?

3 CHECK IT Before you turn it in

☐ I used every process once.

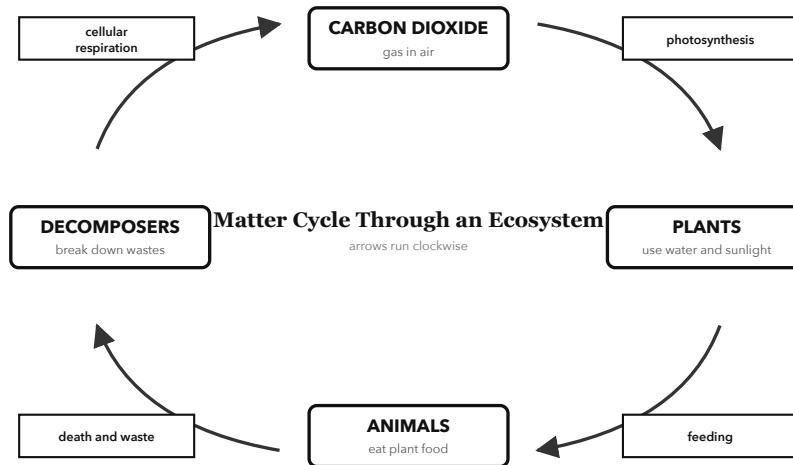
☐ I checked that the arrows form a loop.

☐ I can explain how plants make food.

TEST THE MODEL

What is one real process or material that this simple model leaves out?

PART 1 • COMPLETED MODEL



PART 2 • RUN THE MODEL

1. **photosynthesis** (Which process belongs on the arrow from CARBON DIOXIDE to PLANTS?)
2. **Sunlight, water, and carbon dioxide.** (What three things do plants use to make their own food in this model?)
3. **Decomposers.** (After animals die or leave waste, which stage receives that matter next?)

TEST THE MODEL (SAMPLE ANSWERS)

- It leaves out oxygen released by plants during photosynthesis.
- It leaves out plants dying and being broken down by decomposers.

This simplified loop traces carbon-containing matter, while the PLANTS stage shows that water and sunlight are also needed for photosynthesis. Sunlight supplies energy, so it does not cycle as matter.