

Carbon's Land Loop

Trace carbon through a land ecosystem.

8.11.C "describe the carbon cycle."

NAME _____

DATE _____

1 LABEL THE MODEL _____ Word bank below

Use the word bank to write one process in each numbered box. Follow the arrows to show how carbon moves through this cycle.

WORD BANK

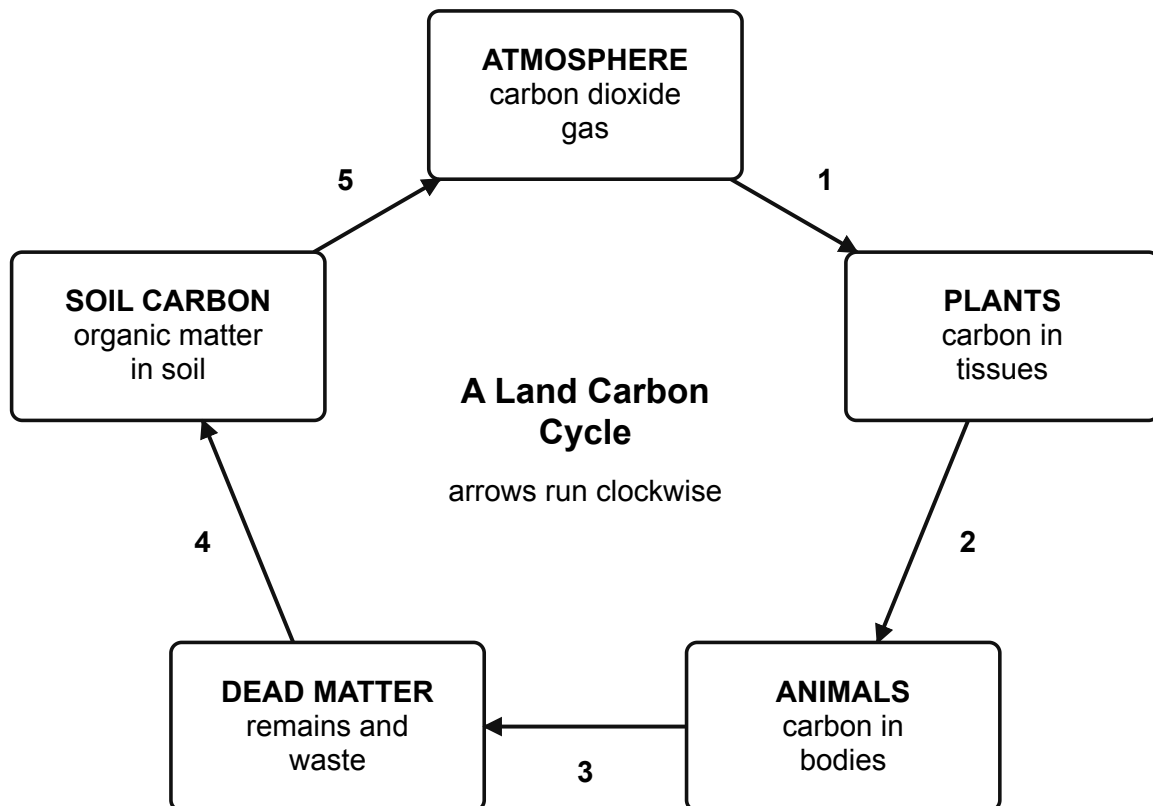
Death and waste

Decomposition

Feeding

Microbial respiration

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 PLANTS to ANIMALS?

2 After carbon enters DEAD MATTER, which process moves it into SOIL CARBON?

3 Which stage receives carbon after microbial respiration?



CHECK IT

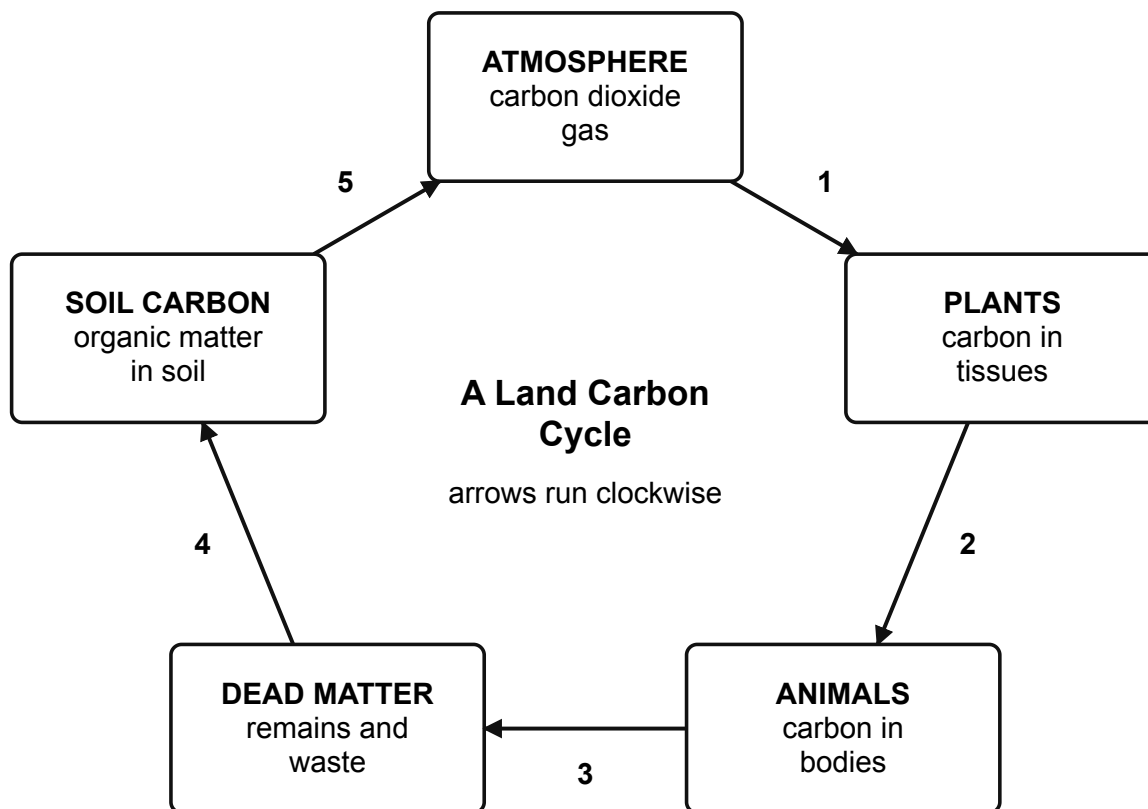
Before you turn it in

- ☐ I wrote one process in every box.
- ☐ I followed the arrows in order.
- ☐ I checked that the last arrow returns to the atmosphere.

TEST THE MODEL

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

PART 1 • COMPLETED MODEL

**Arrow 1**

Photosynthesis

Arrow 2

Feeding

Arrow 3

Death and waste

Arrow 4

Decomposition

Arrow 5

Microbial respiration

PART 2 • RUN THE MODEL

1. **Feeding** (Which process moves carbon from PLANTS to ANIMALS?)
2. **Decomposition** (After carbon enters DEAD MATTER, which process moves it into SOIL CARBON?)
3. **ATMOSPHERE** (Which stage receives carbon after microbial respiration?)

TEST THE MODEL (SAMPLE ANSWERS)

- This model leaves out carbon moving between the ocean and the atmosphere.
- This model leaves out fossil fuels being burned and releasing carbon dioxide.

The arrow answers, in order, are Photosynthesis, Feeding, Death and waste, Decomposition, and Microbial respiration. This simplified model shows one short-term land pathway, not every carbon reservoir or process.