

L51 — Respiration, Photosynthesis, and Air

Read Aloud Passage

A plant's bulk does not come from soil. Van Helmont's willow gained 164 pounds while the soil lost a quarter of a pound. A plant is built largely from carbon taken out of carbon dioxide in the air, through pores in its leaves called stomata.

Photosynthesis and respiration are linked reactions that run in opposite directions. Plants use light to build carbon links; living things break them down for energy. Carbon atoms cycle endlessly between air, plants, and animals. That is why the air keeps its oxygen instead of running out.

The entire cycle is driven by sunlight. Without light, nothing rebuilds the links and the whole system winds down.

Activity 1

Match each word from the word box to its definition. Write the word in the blank.

Word Box: *photosynthesis respiration stomata carbon cycle*

1. ____ — Plants using light energy to build carbon-based molecules from carbon dioxide in the air, releasing oxygen as a leftover.
2. ____ — Living things using oxygen to break the links between carbon atoms in food, releasing stored energy and giving off carbon dioxide.
3. ____ — The tiny pores covering a leaf's surface. They let carbon dioxide in and let oxygen and water vapor out.
4. ____ — The endless loop of carbon atoms: out of the air into plants, into animals, and back to the air, driven by sunlight.

Activity 2

Each phrase below is a fragment, not a full sentence. Add what is missing to make a complete sentence.

1. *releasing oxygen as a leftover*

2. *releasing stored energy and giving off carbon dioxide*

Activity 3

Combine the short sentences below into one smooth sentence.

1.

- A plant's bulk does not come from soil.
- The entire cycle is driven by sunlight.

Combined sentence:

2.

- Carbon atoms cycle endlessly between air, plants, and animals.
- Photosynthesis and respiration are linked reactions that run in opposite directions.

Combined sentence:

Activity 4

Each sentence below is a run-on. Rewrite it correctly.

1. A plant's bulk does not come from soil a plant is built largely from carbon taken out of carbon dioxide in the air, through pores in its leaves called stomata.

Correction:

2. Photosynthesis and respiration are linked reactions that run in opposite directions carbon atoms cycle endlessly between air, plants, and animals.

Correction:
