

19 Carbon cycle and populations – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	Write it 3 times (English)		
carbon cycle	_____	_____	_____
photosynthesis	_____	_____	_____
carbon dioxide	_____	_____	_____
respiration	_____	_____	_____
combustion	_____	_____	_____
population	_____	_____	_____
species	_____	_____	_____
lag	_____	_____	_____
exponential	_____	_____	_____
stationary	_____	_____	_____
death	_____	_____	_____

Recall

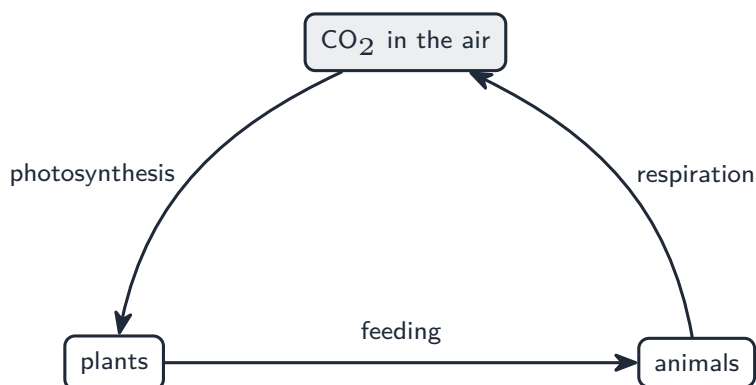
Energy flows one way and is lost, but nutrients like carbon are **recycled** – used again and again.

New ideas

Read these first, then do the Practice.

■ 1 The carbon cycle

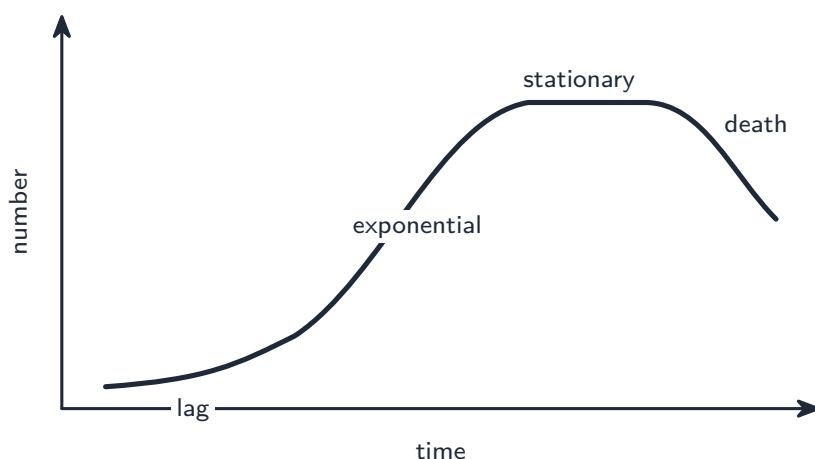
In the **carbon cycle**, carbon moves between the air and living things:



- **photosynthesis** takes **carbon dioxide** out of the air;
- **respiration** and **combustion** (burning) return it.

■ 2 Population growth

A **population** is a group of one **species** in one area. With limited food and space, it grows in an S-shape:



- **lag** (slow start) → **exponential** (fast) → **stationary** (levels off) → **death** (falls).

Watch out: in the carbon cycle, **photosynthesis** *removes* carbon dioxide from the air, while **respiration**, **combustion** and **decomposition** *return* it – keep the di-

rections straight. A population grows in an S-shape: lag → exponential → stationary → death.

Practice

Try these in order.

19.6 Which process removes carbon dioxide from the air? [1]

19.7 Name two processes that return carbon dioxide to the air. [2]

19.8 What is a *population*? [1]

19.9 In which phase does a population grow fastest? [1]

19.10 What happens in the death phase, and why? [2]

19.11 Challenge. A few bacteria are placed in a flask of food. Describe and explain how their numbers change over time, naming the phases. [3]