

Biology 7: Ecology

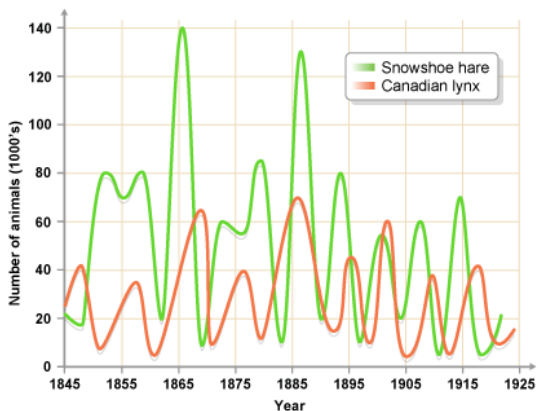
Section 1: Key terms

1 Ecosystem	The interaction of a community of living organisms (biotic) with the non-living (abiotic) parts of their environment.
2 Habitat	The area in which an organism lives .
3 Community	Two or more different species in an ecosystem. A stable community is one where all the species and environmental factors are in balance so that population sizes remain fairly constant .
4 Population	The total number of organisms of one species in an ecosystem.
5 Competition	Plants often compete for light, space, water and mineral ions . Animals often compete for food, mates and territory
6 Interdependence	Within a community each species depends on other species for food, shelter, pollination etc.
7 Adaptations	A feature that an organism has that allows it to survive in its ecosystem.
8 Biodiversity	The variety of all the different species of organisms on Earth , or within an ecosystem .

Section 3: Food Chains and Predator-Prey Relationships



- 11 Producer** – Start of a food chain. Produces **glucose** through **photosynthesis**.
- 12 Primary Consumer** – Eats a **producer**. **Prey** of secondary consumer.
- 13 Secondary Consumer** – Eats a **primary consumer**. **Predator** of primary consumer.
- 14 Tertiary Consumer** – **Predates** on **secondary consumer**.



Predator-prey cycles

- 15** The population of the **prey increases**
- 16** **More food** is available for the **predators**, so their population increases.
- 17** There are **more predators** so the **population of the prey decreases**.
- 18** There is **less prey to feed on** so the population of **predators decreases**.
- 19** The **cycle restarts** from the beginning.

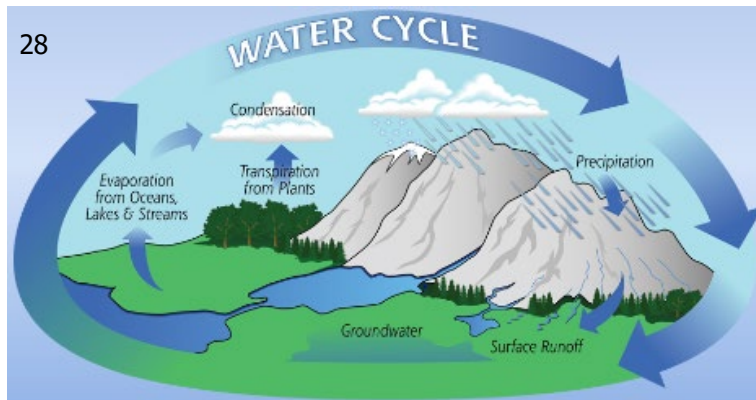
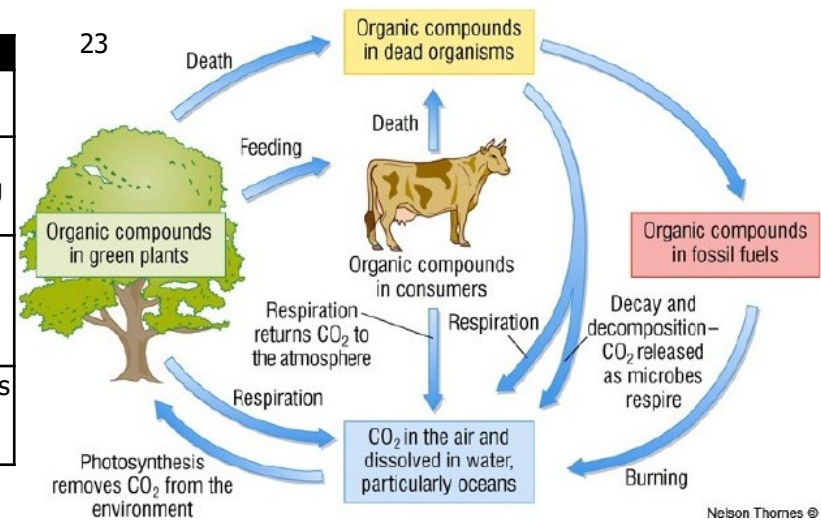
Section 2: Biotic and Abiotic Factors

9 Biotic	10 Abiotic
Availability of food	Light intensity
New predators arriving	Temperature
New pathogens	Moisture levels
One species outcompeting another	Oxygen levels for aquatic animals
	Wind intensity and direction
	Carbon dioxide levels for plants
	Soil pH and mineral content

Section 5: Cycles

Section 5a: Carbon cycle steps

24 Photosynthesis	Plants absorb CO₂ from atmosphere.
25 Respiration	Animals, plants and micro-organisms respire, releasing CO₂ into the atmosphere.
26 Decay	The carbon in dead organisms is released to the atmosphere by micro-organisms respiring .
27 Combustion	Carbon locked in fossil fuels is released as CO ₂ when fuels are burned .



Section 5b: Water cycle steps

29 Evaporation	Liquid water is turned into water vapour in the atmosphere .
30 Condensation	Water vapour condenses to form clouds .
31 Precipitation	Water is deposited from clouds as rain .

Section 4: Adaptations

20 Structural Adaptations	Part of the body that helps the organism survive. e.g. polar bears have a thick layer of fat for insulation.
21 Functional Adaptations	How the body operates that helps the organism survive. E.g. camels do not sweat.
22 Behavioural Adaptations	A behaviour that helps the organism survive. e.g. desert rats stay in their burrows during the hottest parts of the day.