

Earth Science Review

The amount of space in which a plant grows determines whether the plant can get the sunlight, water, and soil nutrients it needs. For example, many small plants sprout each year in a forest. But as they grow, the roots of those that are too close together run out of space and some of the plants will die. Branches from other trees may block the sunlight the small plants need. Some of the small plants might die, limiting the size of that plant population.

What are two ways in which space is a limiting factor for plants?

- a. Space → Roots may come too close to another plant's and cause overcrowding
- b. Sunlight → Taller trees may block sunlight to smaller plants which will prevent them from being able to photosynthesize

List each of earth's 4 spheres, along with 2 examples of things from each

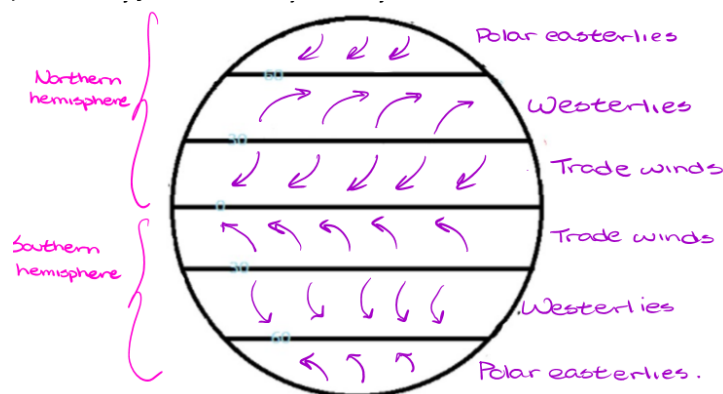
Geosphere/Lithosphere: rocks, mountains, sand, etc.

Atmosphere: sky, clouds, air, oxygen, etc.

Hydrosphere: lakes, oceans, rivers, ponds, etc.

Biosphere: humans, dogs, grass, trees, flowers, etc.

Identify and label the major wind systems that are on Earth:



What causes the direction and motion of the winds to occur

Convection currents: Rising and falling of air as it warms and cools

Coriolis effect: Earth tends to rotate faster at the equator than at the poles

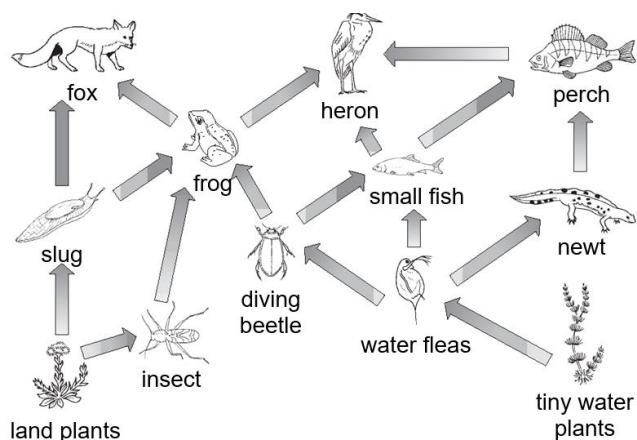
How are ocean currents and winds related?

Wind causes surface currents to form. They will move by convection currents

What major things does the Great Ocean Conveyor Belt transport around the Earth?

Thermal energy, nutrients, and deep water

Use the following food web:



1. Name two producers in the food web.

Land plants and tiny water plants

2. Name the primary consumers in this community.

Slugs, insects, and water fleas

3. What would happen to this community if all of the frogs died suddenly?

The population of insects, diving beetles, and slugs would increase. Foxes and herons would have one less food source to survive on which may cause the population to decrease or cause the slug population and small fish population to decrease. There would be more competition for food sources

Use the following food chain:



1. What does the arrow mean in a food chain?

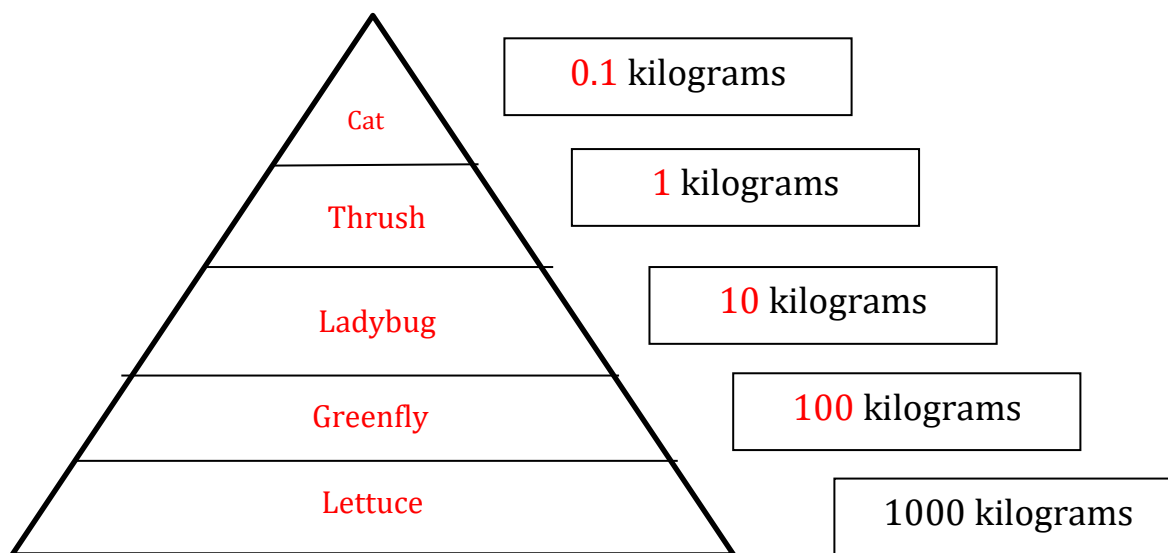
Flow of energy from one organism to another

2. Name the producer in the food chain: Lettuce

3. Name the 3rd trophic level in the food chain: Ladybug

4. Name the apex consumer in the food chain: Cat

5. Using the organisms in the food chain above, construct an accurate energy pyramid. Fill in the amount of energy transferred for each level



Why are decomposers not drawn within food pyramids?

They exist on all trophic levels in the food pyramid

Explain why the **sun** is essential to...

a. food chains

The sun is the energy source that producers need in order to create its energy. Without it, producers cannot make its own energy and transfer the energy through the food chain

b. the carbon cycle

The sun is the driving force for photosynthesis to occur in plants. Without photosynthesis, the Earth's supply of oxygen is depleted.



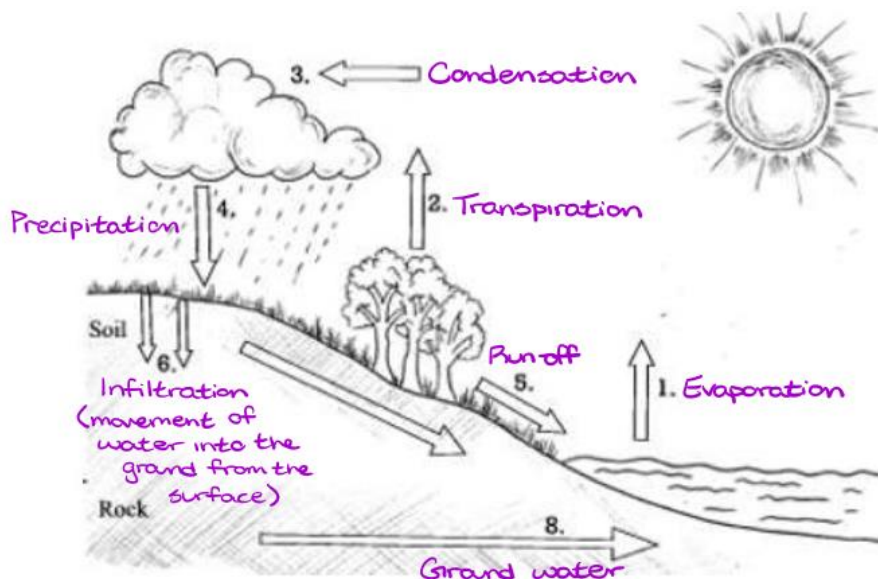
What are the effects on the Earth due to excess burning of fossil fuels?

This has led to global warming and global climate change. As a result, land and sea ice has started to melt, warmer seawater, and extreme weather events occurring throughout the world.

Matching: Match the descriptor with the BEST term

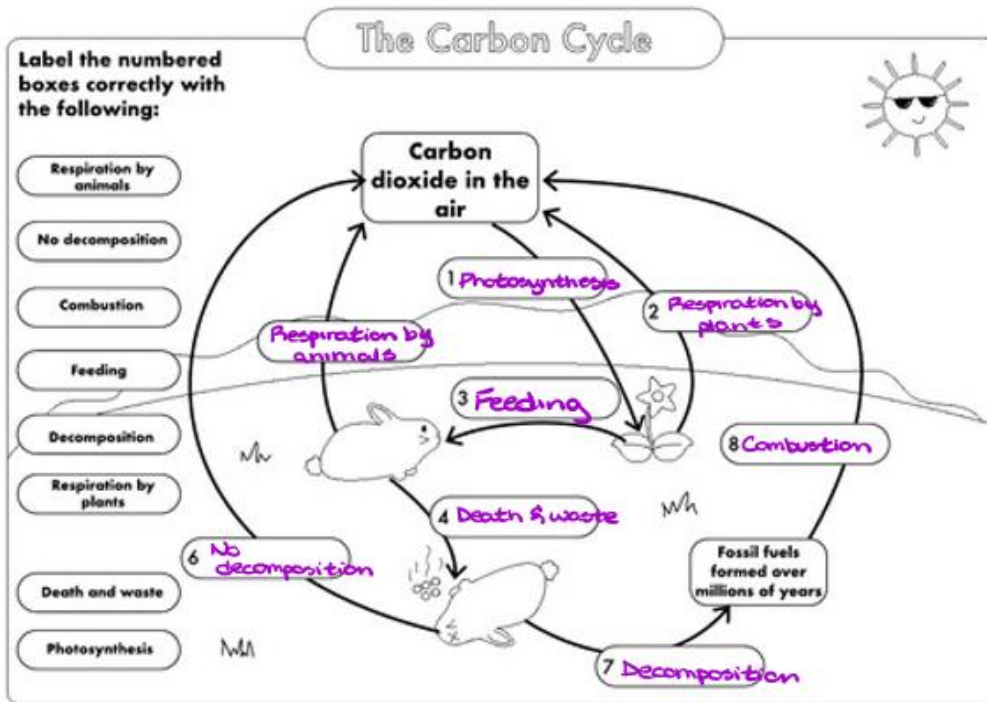
Definition	Term
H 1. Living things that break down dead organic material to get their energy	a. Greenhouse Effect
G 2. A model that describes how food energy is passed from one living thing to another in an ecosystem.	b. Coriolis effect
D 3. A model that shows the amount of energy available in each level of a food chain.	c. Limiting Factors
A 4. Process that absorbs the outgoing solar energy in Earth's atmosphere	d. Energy pyramid
E 5. Gases that absorb solar energy in Earth's atmosphere	e. Greenhouse gas
C 6. Factors that control how large a population can be in an environment	f. Convection currents
F 7. The phenomenon that causes winds when warm air near the Earth's surface rises and eventually cools down while cool air sinks	g. Food web
B 8. The phenomenon that makes things (like air) travelling around the Earth to appear to move in a curved fashion	h. Decomposer

Label the following **water cycle**:



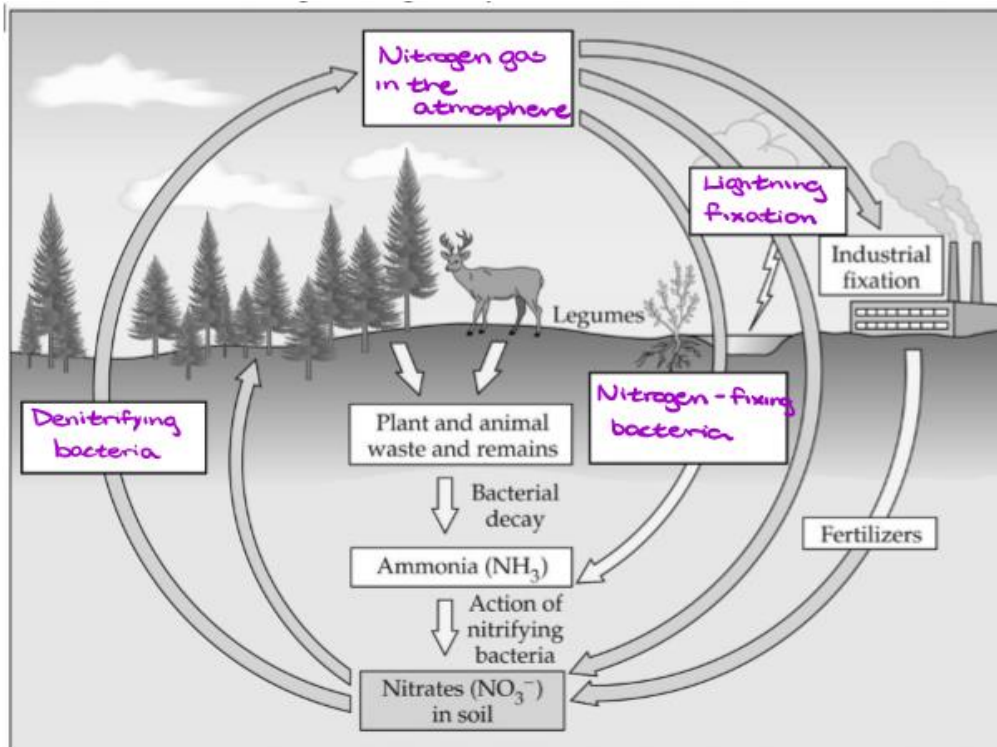
Word Bank
- Infiltration
- Run-off
- Transpiration
- Condensation
- Ground water
- Evaporation
- Precipitation

Label the following **carbon cycle**:



Word Bank
- Combustion
- Feeding
- Respiration by animals
- Photosynthesis
- Death & waste
- No decomposition
- Decomposition
- Respiration by plants

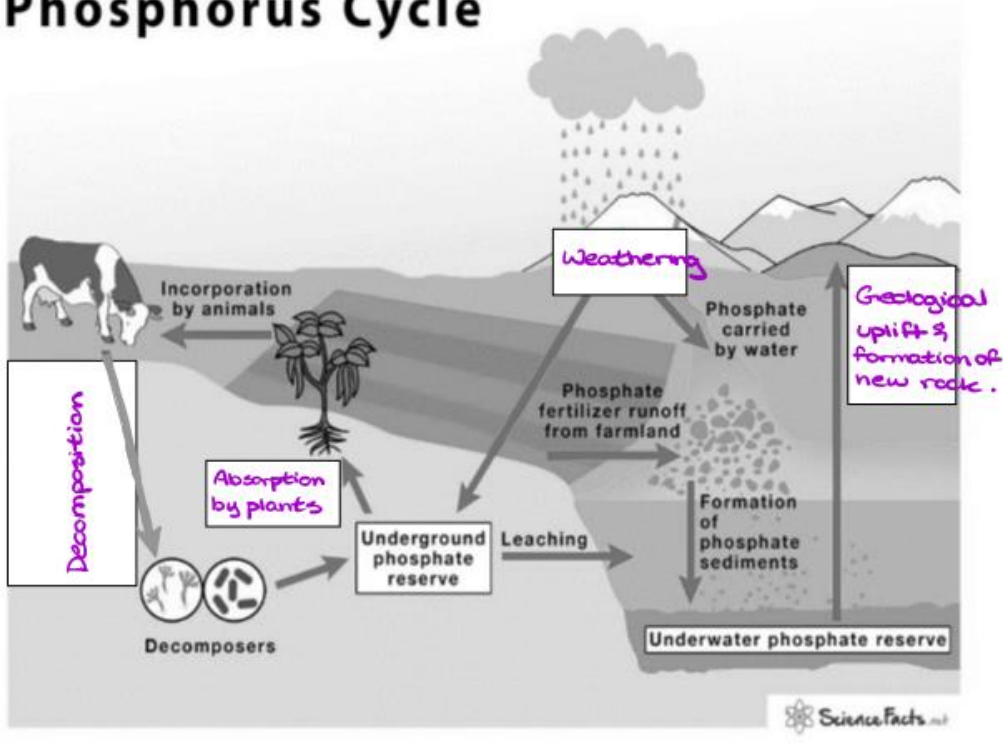
Label the following **nitrogen cycle**:



Word Bank
- Denitrifying bacteria
- Nitrogen-fixing bacteria
- Lightning fixation
- Nitrogen gas in the atmosphere

Label the following phosphorus cycle:

Phosphorus Cycle



Word Bank
- Decomposition
- Absorption by plants
- Geological uplift & formation of new rock
- Weathering