United Arab Emirates

Emirates Schools Establishment

Tahnoon Bin Mohamed School C2

SCIENCE

QUESTIONS BOOKLET

Grade 5

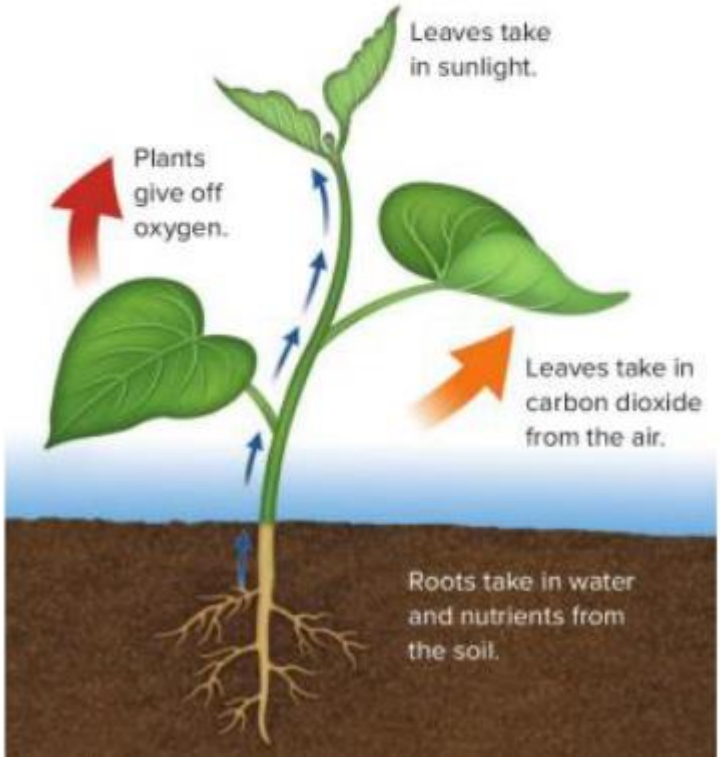
NAME: .....

CLASS: .....

BY: Miss. Suzanne Samir

Question 1:

Explain how the diagram provides evidences of the major roles of the parts of the plant and the flow of energy, water, and air!



Roots: absorb water and nutrients from the soil.

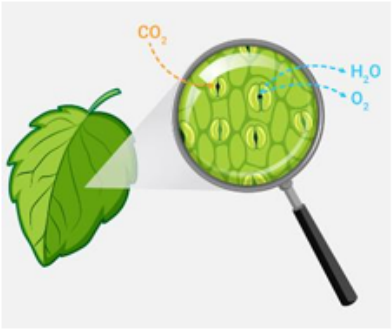
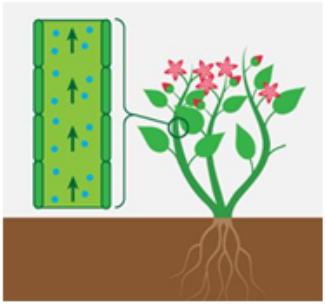
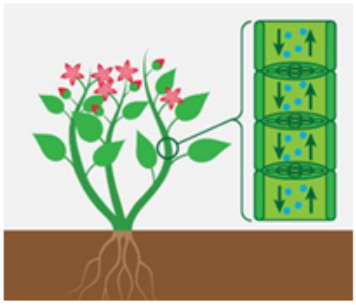
Stem: Transfer water and nutrients to the leaves to make food.

Leaves: take in sunlight and carbon dioxide from the air, helping the plant make food. And release oxygen into the air.

This shows the flow of energy (from the sun), water (from the soil), and air (carbon dioxide in, oxygen out) in the ecosystem.

Question 2: Compare between the following:

1.Plant tissues:

Stomata	Xylem	Phloem
Small pores or openings under the leaves. Open to allow carbon dioxide in and to allow oxygen and water to move out. Close to keep water in the plant.	Move water and nutrients taken in by the roots up through the stem to other plant parts.	Move sugars made in plant leaves up and down the plant to all of its different parts.
		

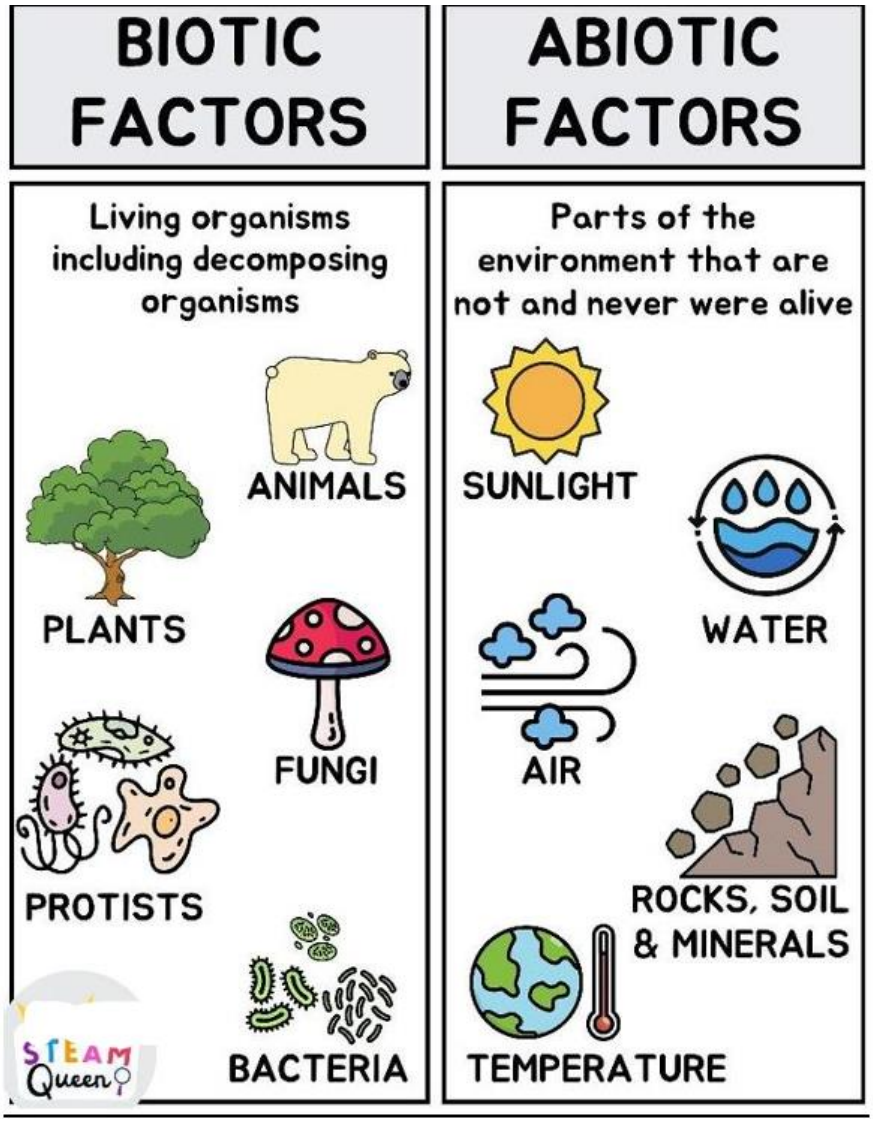
2.Types of Consumers:

Herbivores	Carnivores	Omnivores
Organisms that eat plants ONLY.	Organisms that eat meat ONLY.	Organisms that eat both plants and meat.

3.Producers, Consumers, Decomposers:

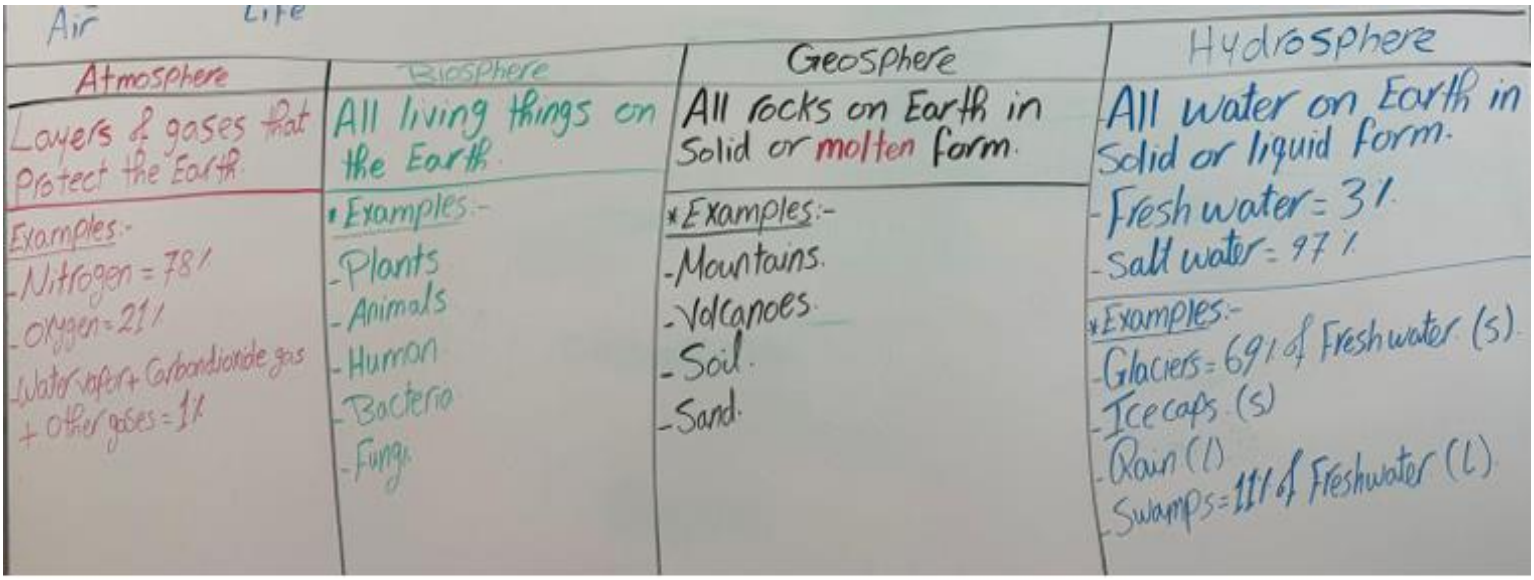
Producers	Consumers	Decomposers
Organisms that can make their own food by using energy from the sun.	Organisms that get their energy by eating other organisms.	Organisms that feed on dead organisms and change the dead matter into nutrients needed for plant growth.

4. Biotic and Abiotic factors:



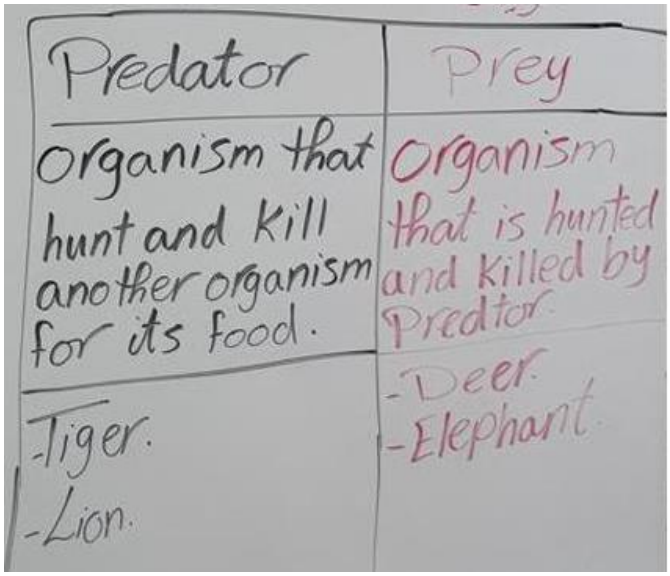
Note: Biotic factors depend on Abiotic factors to survive.

5. Earth's Ecosystem:



Air	Life		
Atmosphere	Biosphere	Geosphere	Hydrosphere
Layers & gases that protect the Earth.	All living things on the Earth.	All rocks on Earth in solid or molten form.	All water on Earth in solid or liquid form.
Examples:- -Nitrogen = 78% -Oxygen = 21% -Water vapor + Carbondioxide gas + other gases = 1%	*Examples:- -Plants -Animals -Human -Bacteria -Fungi	*Examples:- -Mountains. -Volcanoes. -Soil. -Sand.	-Fresh water = 3% -Salt water = 97% *Examples:- -Glaciers = 69% of Freshwater (S). -Ice caps (S) -Rain (L) -Swamps = 11% of Freshwater (L).

6. Predators and Preys:

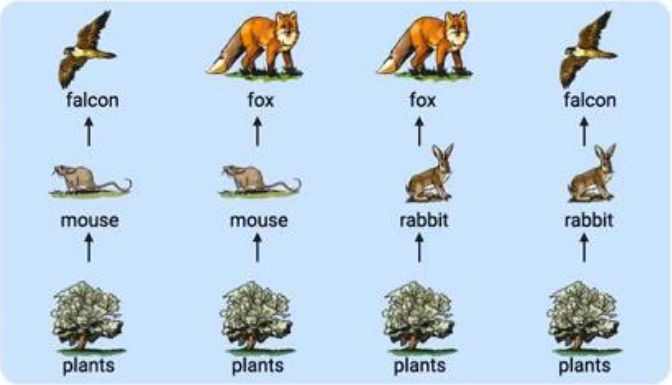
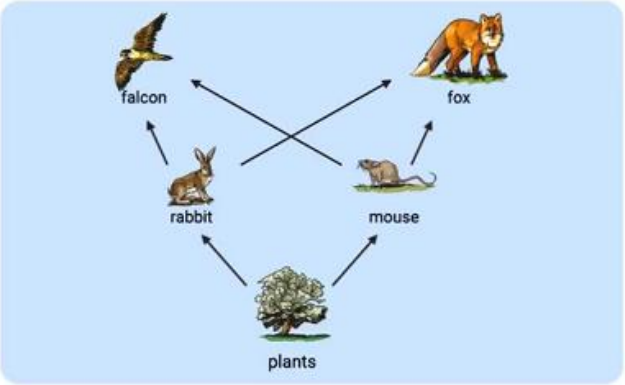


Predator	Prey
organism that hunt and kill another organism for its food.	organism that is hunted and killed by predtor.
-Tiger. -Lion.	-Deer. -Elephant.

7. Habitat and Niche:

Habitat	Niche
The Place where a living organism lives in.	The role of a living organism in its habitat.

8. Food chains and Food webs:

Food chains	Food webs
A Straight-line diagram that shows Energy transfer between living organisms in **one path.**	A network that shows different food sources of living organisms in **many paths.** **(It contains Many connected food chains).**
	

Question 3: What is meant by?

1.Energy:

The ability to do work or change something.

2.Invasive species:

Organisms that are introduced to a NEW ecosystem, causing harm to the environment and competing their food and water.

3.Transpiration:

The evaporation of water from plant leaves by stomata.

4.System:

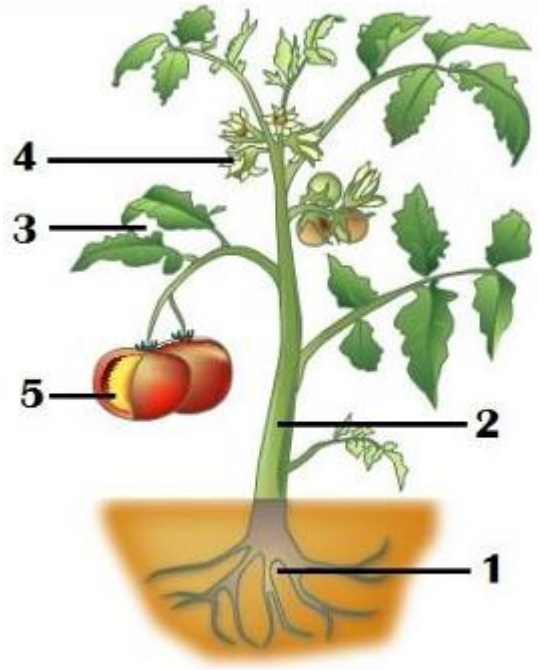
A group of different parts that work together as a whole.

5.Cycle:

The continuous exchange between matter in the ecosystem.

Question 4: Label the following diagrams:

1.Plant Parts:



1-Roots.

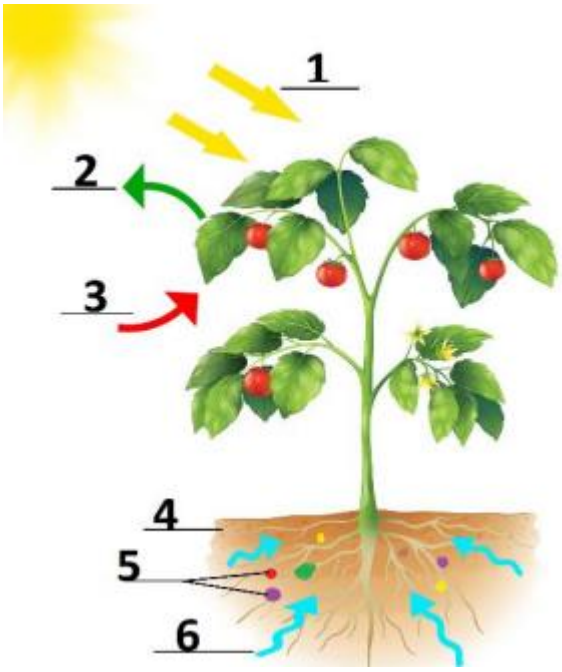
2-Stem.

3- Leaves.

4- Flower.

5- Fruit.

2.Plant Needs:



1- Sunlight.

2- Oxygen.

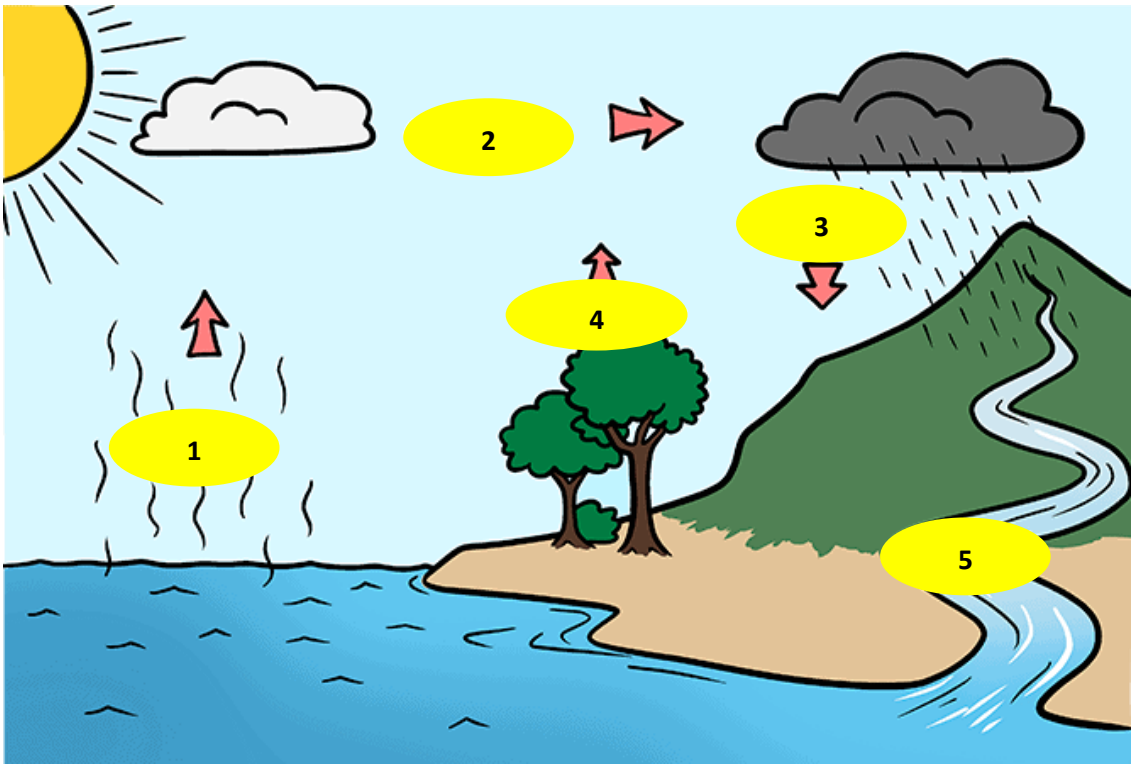
3- Carbon dioxide.

4- Soil (Space).

5- Nutrients.

6- Water.

3.Water cycle:



1- Evaporation.

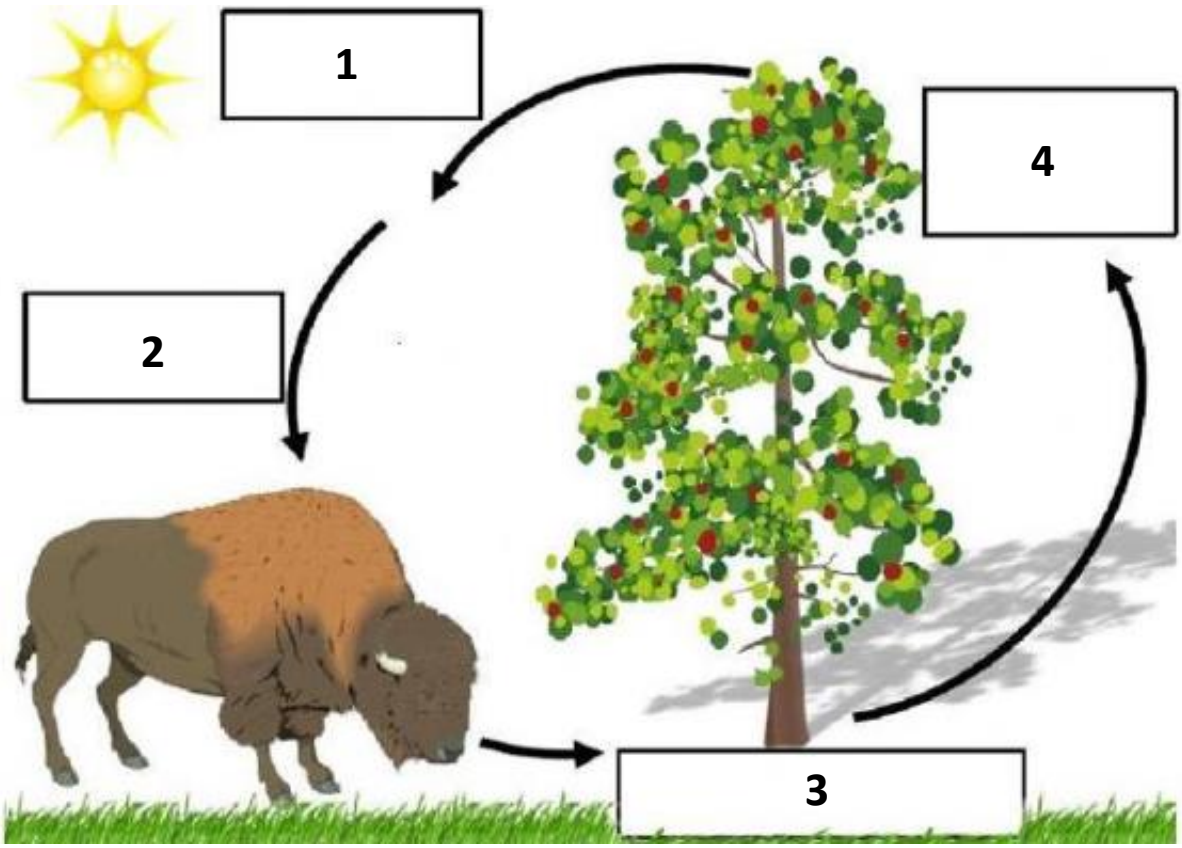
2- Condensation.

3- Precipitation.

4- Transpiration.

5- Run off.

4.Carbon-Oxygen cycle:



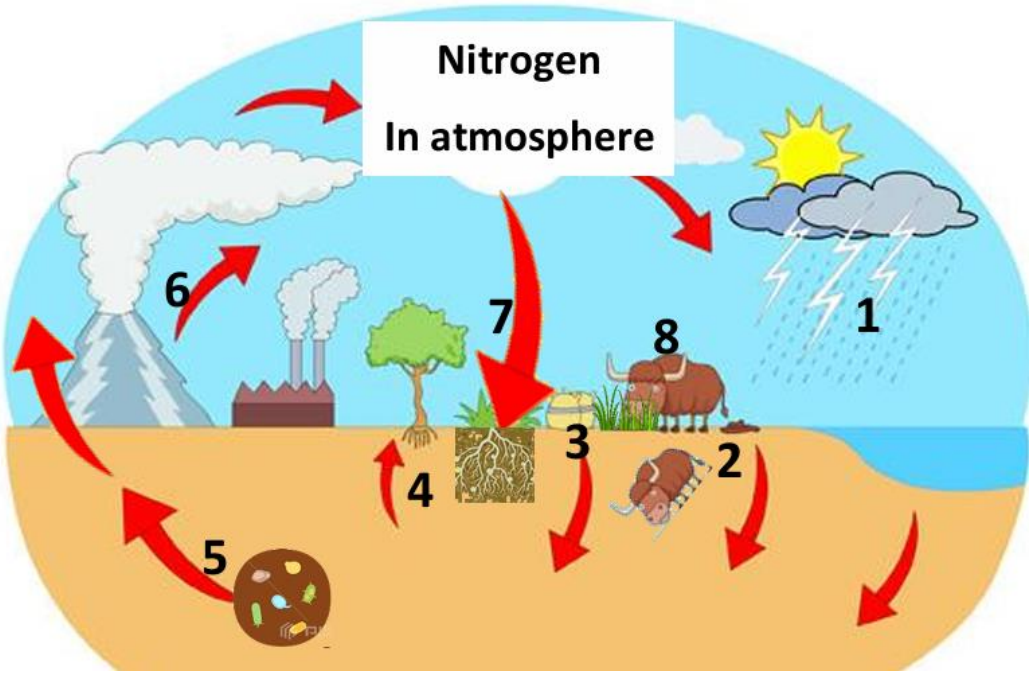
1- A producer gives off (Release) Oxygen.

2- A consumer takes in Oxygen.

3- A consumer gives off Carbon dioxide.

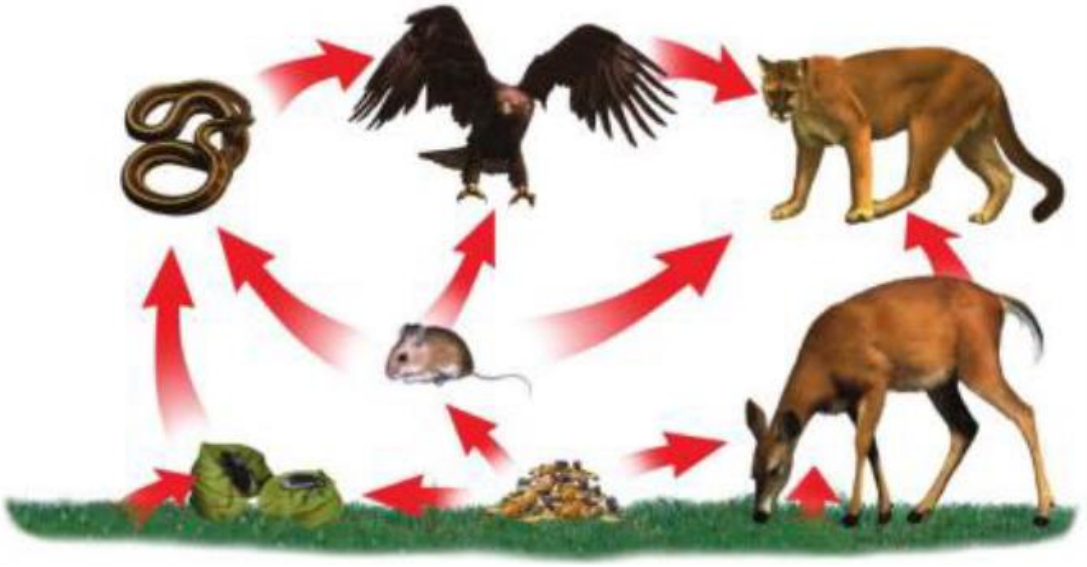
4- A producer takes in Carbon dioxide.

4.Nitrogem cycle:



Decay – bacteria – atmosphere - protein – fix – solid form – nitrogen - grow

1- Lightning can ……Fix…… nitrogen in soil.
2- Waste and dead animal will ……Decay…… by decomposer.
3- Fertilizer add ……Nitrogen…… compounds in soil.
4- Plant use nitrogen compound to ……Grow.……
5- Nitrogen is released back to the atmosphere by ……Bacteria.……
6- Volcano release nitrogen gas into ……Atmosphere.……
7- Bacteria that live in plant roots convert nitrogen gas into ……Solid form.……
8- The animal takes the ……Protein…… from the plant.



What is it? And what does it show?

Food web. It shows MANY different energy sources for living organisms.

What does this diagram start with?

A producer.

What do we call the animal at the end of this diagram?

Top predator.

Question 5: Complete the following sentences:

1- The Nitrogen Cycle is the continuous circulation between the soil, organisms, and the air.

2- Predators hunt Preys to control their populations.

3- All of Earth's liquid and solid water make up the hydrosphere.

4- The part of Earth where all living organisms are found is called biosphere.

5- Water evaporates from the plant leaves and return back to the atmosphere through a process called transpiration.

6- Producers are organisms that make their own food by sunlight.

7- By eating other organisms, Consumers obtain their energy.

8- In food chains, Top predators are at the top of it.

9- Water is carried from roots through the stem by tissues called Xylem.

10- Phloem are tissues that transport Sugar to all plant parts.

Question 6: Choose the correct answer:

Where are decomposers most likely to be found?

A. On top of healthy green leaves
B. In clean drinking water
C. In soil with dead plants and animals
D. Inside living animals

Which of these is an example of a decomposer?

A. Butterfly
B. Mushroom
C. Sunflower
D. Rabbit

What is one way fungi are different from plants?

A. Fungi make their own food using sunlight.

B. Fungi do not have roots, stems, or leaves.

C. Fungi have flowers and seeds.

D. Fungi need sunlight to grow food.

Which of these is a single-celled organism?

A. Mushroom

B. Bacteria

C. Tree

D. Fish

A(n) _____ shows the relationships among all species in an ecosystem.

- **A)** environmental change
- **B)** energy pyramid
- **C)** food web
- **D)** food chain

Which of the following is *not* an abiotic factor?

- ○ rocks
- ○ air
- ○ animals
- ○ water

Which are living parts of an ecosystem? Select **all** that apply.

- ☐ fungus
- ☐ Sun
- ☐ tree
- ☐ fly
- ☐ rock

Look at the picture of the hawk and the mouse. What word best describes the hawk?

- herbivore
- decomposer
- predator
- prey

Which of Earth's systems interact with each other?

- geosphere and hydrosphere only
- hydrosphere and atmosphere only
- atmosphere and biosphere only
- All of Earth's systems interact with each other.

Why are producers the first organisms in a food chain?

A. They prey on all other organisms.

B. They receive energy directly from the Sun.

C. They are not consumed by other organisms.

D. They break down dead plant and animal matter.

The animal in the picture is a predator.
If a predator is removed from an ecosystem, then _____

- ○ The population of predators will likely increase.
- ○ The population of prey will increase.
- ○ The population of prey will decrease.
- ○ The population of predators will not be affected.

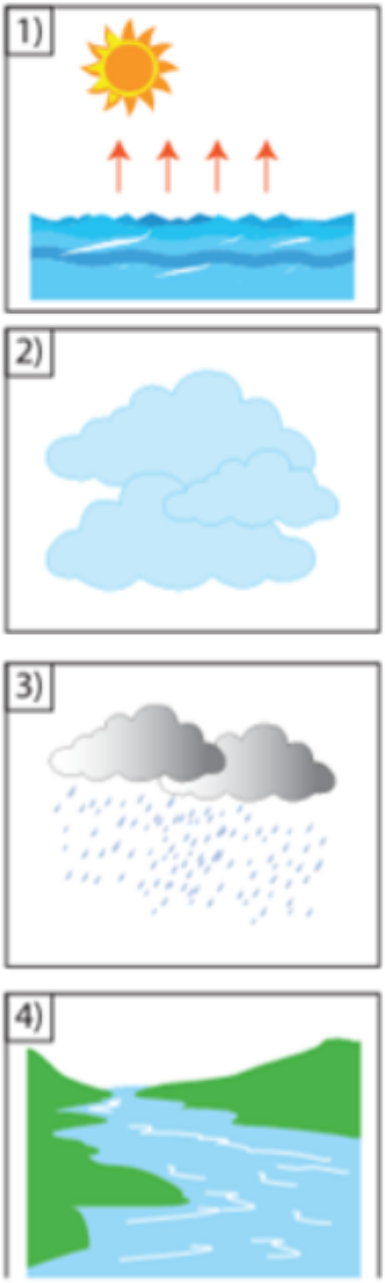
The picture shows living things in an ecosystem.

Which organism is a producer?

- ○ Squirrel
- ○ Caterpillar
- ○ Plant
- ○ Bird

Different types of questions:

Match each picture to the stage in the water cycle it represents.



Precipitaiton

Runoff

Condensation

Evaporation

(a) Draw a line to connect the **term** to the correct **meaning**.

term	meaning
producer	an animal that eats another animal
predator	a green plant that makes its own food
prey	an animal that is eaten

(b) What is a consumer?

Circle the correct answer.

a plant that eats another plant

a plant that eats an animal

an animal that eats a plant

a plant that eats plants and animals

Here is a food chain.

plankton → crustaceans → trout → otter

Complete the sentences.

All food chains begin with a Producer.

In this food chain this is the Plankton.

This living organism gets its energy from the Sun.

Look at the food chain shown here.

leaf → slug → bird → cat

(a) How many consumers are there?

3 [1]

(b) Name the predator of the bird.

Cat. [1]

(c) Name the producer.

Leaf. [1]

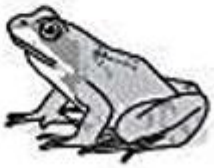
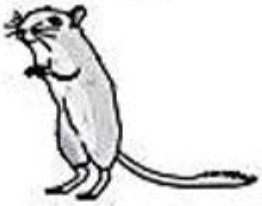
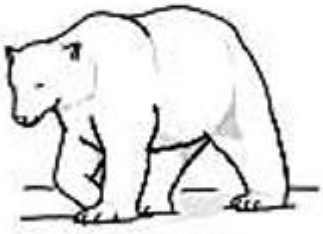
(d) Name the prey of the bird.

Slug. [1]

Complete the table.

Choose from the following words.

desert **pond** **sea ice** **soil** **tree**

	natural habitat
 earthworm	Soil.
 frog	Pond.
 gerbil	Desert.
 polar bear	Sea ice (Arctic \ Antarctica).
 squirrel	Tree.

Name three **abiotic** factors in this ecosystem.

1. Rocks.
2. Clouds.
3. Water.

Fill in the blanks using the words from the word box.

Prey – Air – Predators – Plants – Carnivore

1. All living things need water, space, and Air.
2. A Carnivore eats only meat.
3. Animals that are hunted are called Prey.
4. Predators help control the number of prey animals.
5. Plants make their own food.

Identify the **predator** and **prey** in the picture.

Prey

Predator

The picture shows a **camel**.

a) What is its **habitat**?

Desert.

b) Choose the **niche** of camel.

- ○ Sleeps in the day, flies at night
- ○ Carries heavy loads and stores water
- ○ Eat grass and help spread seeds
- ○ Flies and helps flowers

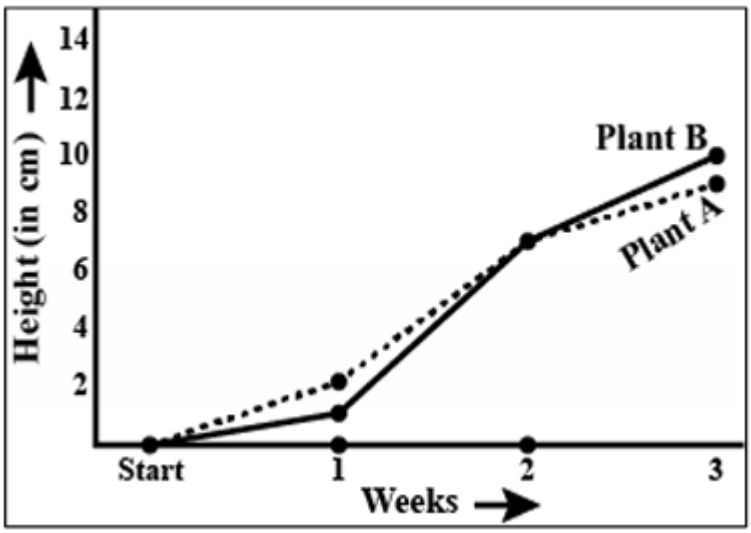
A beetle lives in a forest under a rock. It cleans up dead plants and keeps the place clean.

a) What is its **habitat**?

Forest.

b) What is its **niche**?

Cleans up dead plants and keeps the place clean.



1. Plant (A) grows bigger than plant (B) in week **1.**
2. Plant (B) grows bigger than plant (A) in week **3.**
3. Both Plants (A) and plant (B) were at the same height in week **2.**

Noura investigated how the amount of sunlight affects plant growth.

Use his data to answer the following questions. Assume that each plant was provided 20 ml of water per day.

	Amount of sunlight per day	Height in week 1	Height in week 2	Height in week 3	Average
Plant A	15 hours	1 cm	3 cm	5 cm	9/3 = 3 cm.
Plant B	9 hours	2 cm	5 cm	7 cm	14/3 = 4.6 cm.
Plant C	5 hours	3 cm	6 cm	10	19/3 = 6.3 cm.

1- Calculate average of height of each plant in the table ?

2- Which condition favored the most growth? C.

3- Which plant had the least growth? Why?

A.

Reason: Because it was exposed to sunlight for long time (It will dry).

NOTE:

Average = Summation of values / Number of values.

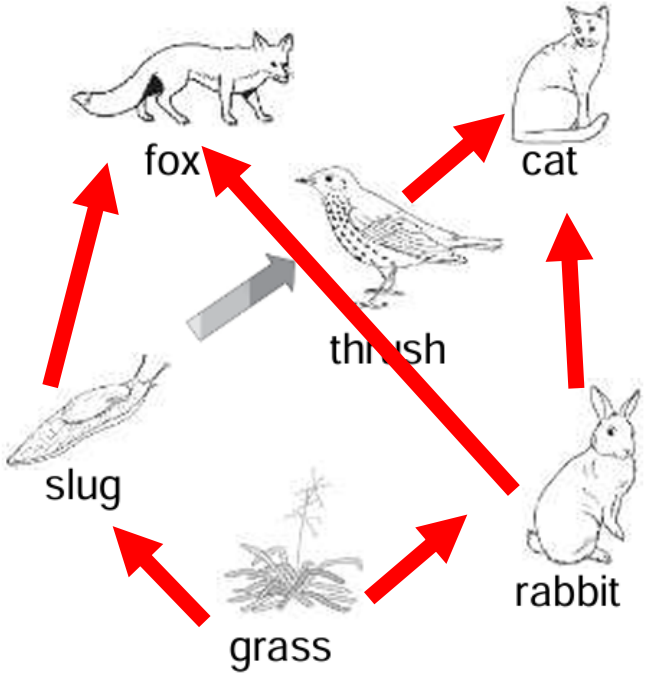
Look at these food chains.

grass → slug → thrush → cat

grass → slug → fox

grass → rabbit → fox

grass → rabbit → cat



Use the food chains to help you fill in the arrows on this food web. One has been added for you.

Use these words to make a simple food chain:

Cheetah	Lizard	deer	green plant

Answer:

Green plant >>>>> Deer >>>>> Lizard >>>>>> Cheetah.