



Master Lesson Plan

For

The Living Organisms Characteristics and Habitats

Board	Standard	Subject	Chapter	Language	Reference Link	Creation
CBSE	STD VI	Science	The Living Organisms Characteristics and Habitats	English	The Living Organisms Characteristics and Habitats	2020-10

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The Living Organisms Characteristics and Habitats

1. MS_Objectives_The Living Organisms, Characteristics and Habitats

Notestotheteacher: This asset lays down the proposed plan for transacting this chapter. It states the asset objectives of the MLP. This asset is for teacher's reference and need not be taught to the students:

Students will be able to...

- categorise different habitats
- explain the components of habitat
- apply their previous knowledge on habitats.
- relate habitat in daily life
- recognize the various animals and plants around them
- identify the different types of terrestrial habitat
- explore the reasons behind adaptation
- discuss the different types of aquatic habitat
- relish the additional information on habitats
- examine about habitat and adaptation
- imagine the unique features of desert animals
- recognize that in life we will be contented, only if we are able to adapt to different situations
- describe the characteristics of living organisms
- to benefit from the additional inputs on polar habitat
- assess themselves on the topic 'The Living Organisms, Characteristics and Habitats'

Time to teach	Asset Type	Theme	SubTheme
3 Minutes	Main Script	Living organisms and Ecosystem	

2. SA_Find My Home!

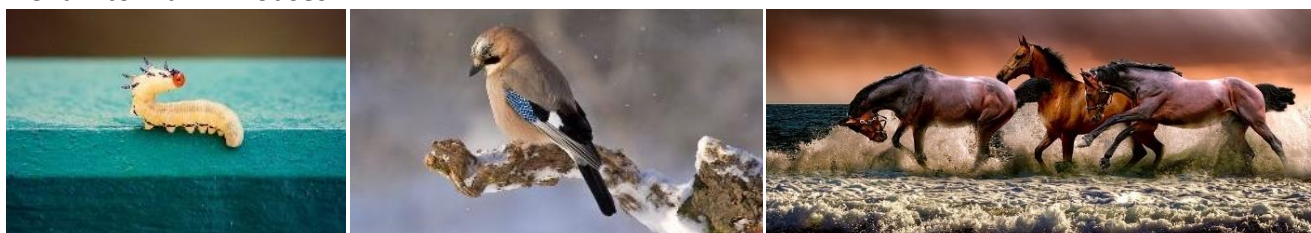
Aim: To recognise different habitats while having fun in learning.

Resources required:

Pictures of various plants and animals, worms and insects living in different habitats.

Music

Chalk to mark 4 houses





Setting for the activity: [Outdoor]

Type of activity: (Whole class)

Procedure:

1. Teacher should collect pictures of various insects, animals, worms and plants of different habitats (Aquatic, Grassland, forest, desert).
2. Ask students to stand in a circle.
3. Distribute pictures to students randomly.
4. Mark four houses around the circle as water, forest, desert, grassland.
5. Once music is played, the students should run around. As soon as music stops, students have to look at the animal/plant in the picture and should take shelter in their houses.
6. If they enter the wrong house, they are out of the game.
7. Next exchange of the pictures should be done among students.
8. The same game may be repeated again & again.

Observation: The students will be able to decide and find the right habitats of the animals.

Conclusion: This activity helps the students to recognize the habitats of different plants and animals.

Instructions to teacher: All the materials required for the activity have to be prepared before hand. Teacher should explain the rules of the activity.

Animals and plants should be selected carefully to avoid any sort of confusion. The students have to easily recognize the plants and animals with no further doubts.

Discipline has to be maintained during the activity.

Teacher has to mark the four homes clearly so that it is visible to all the students.

Questions to Ponder:

- 1) What are the characteristic features of the ocean as a habitat?
The ocean provides various conditions for the creatures, like constant movement of water, various types of organisms around sharing similar space. This naturally needs adaptability for the creatures.
- 2) How do desert plants adapt themselves for the lack of water?
They have spines and rough surface which helps them to hold water .

Precaution:

Care should be taken when the students are running around. They may fall down.

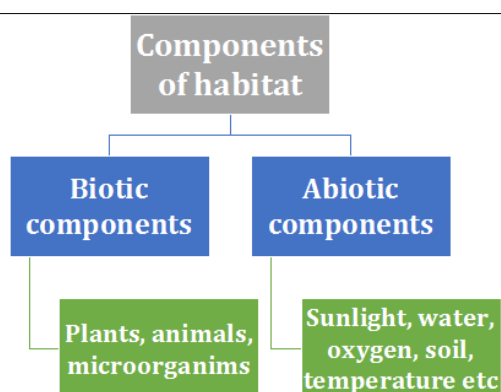
Trouble shooting: N/A

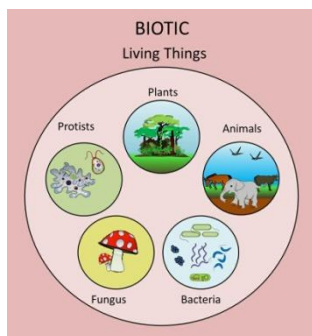
Image source:

1. <https://pixabay.com/photos/chalk-drawing-artistic-arts-bright-1869492/>
2. <https://pixabay.com/vectors/vinyl-platinum-disk-music-dj-2241789/>
3. <https://pixabay.com/photos/animal-horses-fauna-nature-cavalry-3099035/>
4. <https://pixabay.com/photos/jay-bird-animal-perched-548381/>
5. <https://pixabay.com/photos/worm-millipede-park-nature-summer-1345354/>
6. <https://pixabay.com/photos/swan-water-bird-lake-white-2077219/>
7. <https://pixabay.com/photos/ladybug-beetle-insect-163480/>

Time to teach	Asset Type	Theme	SubTheme
15 Minutes	Suggested Activity	Living organisms and Ecosystem	Habitat (terrestrial, aquatic), Habitat (terrestrial, aquatic)

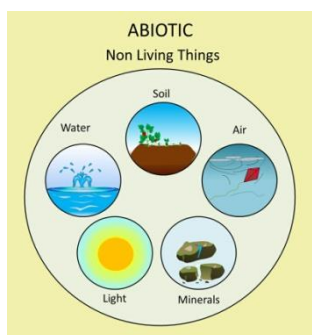
3. MS_Components of Habitat



Biotic factors:

An organism interacts with and responds to both the living and non-living things in its environment. The living things of the environment are called as the biotic factors.

Example: Plants, grass, fungi, bacteria, eagles, worms, animals, etc.

Abiotic factors:-

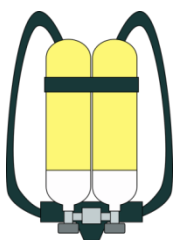
Abiotic factors comprise the non-living things in the environment.

i) Sunlight:-

Sunlight is necessary for photosynthesis for plants, algae and other living things to make their food. Places that receive less sunlight like caves, deep ocean, have only a few organisms that can live there.

ii) Water:

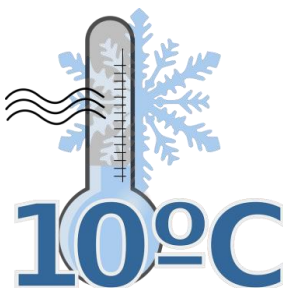
All living things need water for their survival. Life cannot exist without water. Photosynthesis process also requires water.

iii) Oxygen:-

Most living things require oxygen to carry out their life processes such as respiration. Fish and other water organisms obtain dissolved oxygen from the water around them.

iv) Soil:-

Soil consists of fragments of rock, nutrients, air, water and the decaying remains of living things. Types of soil influence the kinds of plants that can grow and flourish there. Bacteria live in soil and break down the remains of other living things and enrich the soil.

v) Temperature:-

The temperature of a place determines if an organism can live there. Not all organisms can survive in extreme weather conditions.

Ex: In warm areas, you might see palm trees, but not in very cold areas. Some animals respond to very hot or very cold temperatures by altering their environment.

Biotic and abiotic - original contribution rushmish@gmail.com

CCO: Sunlight: <https://www.publicdomainpictures.net/view-image.php?image=22515&picture=sunlight>

CCO: Water: <http://maxpixel.freegreatpicture.com/Nature-Water-Drops-Of-Water-Liquid-578897>

CCO: Oxygen cylinder: <https://pixabay.com/en/oxygen-cylinders-apparatus-41396/>

CCO: Soil: <http://maxpixel.freegreatpicture.com/Soil-Organic-Fertilizer-Compost-Garden-Hand-Farm-766281>

CCO: Temperature: <https://pixabay.com/en/temperature-thermometer-cold-winter-1300515/>

Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Main Script	Living organisms and Ecosystem	Habitat(terrestrial, aquatic), Habitat(terrestrial, aquatic)

4. IQ_Habitats- A thought

[Notes to the teacher - Teacher may enable the students to think and come out with as many answers as possible before giving out the right answer/ answers]

1) Where do all creatures such as animals, plants, insects etc live?

Suggested Answer: Each creature will have a place to live depending on their nature. For e.g. Humans live in houses, animals live in forest, fishes live in water, and so on..

2) Why do different animals live in different habitats?

Suggested Answer: Different animals live in different habitats because they are well suited for a particular environment. For eg: A fish can live only in water and not on land because it is well adapted for an aquatic habitat. Similarly, man can live only on land and not in water. Animals choose different habitats based on their needs.

3) Why fishes can easily swim in water without any breathlessness?

Suggested Answer: Fishes are well adapted to live in water. Fishes have gills, swim bladder and fins. Presence of these structures makes it possible to live in water. They breathe by taking water in their mouths and then force it through their body and gills. The gills have many blood vessels through which they get direct oxygen.

4) Why is paddy grown during the rainy season and wheat in the winter season?

Suggested Answer: Paddy requires plenty of water and wheat does not require excess water.

5) Have you ever tasted sea water? How does it taste? Is it salty or sweet? Have you ever wondered why the seas and oceans are salty?

Suggested Answer: Yes, sea water is salty.

As rainfalls and water flows over the land the water dissolves salts out of the rocks, it washes the salt into streams, then rivers and finally carries the salt to the sea. The salt stays in the sea as no water flows out of the sea. When sea water evaporates to form clouds almost all the salt stays behind. The residual salt collects over a very long period that is how the sea has become salty.

6) Can you name some sea animals and plants?

Suggested Answer: Sharks, sea horses, blue whales, octopus are some sea animals. Seaweeds, sea grasses, and mangroves are some sea plants.

7) If the lion needs to survive in the desert what modification would be needed in its body?

Suggested Answer: The lion will have to have a body that would conserve lots of water. A thick body covering to protect it from excessive heat.

8) What adaptation is needed for rats to live in water?

Suggested Answer: Rats will have to have fins, gills, streamlined body, swim bladder.

9) Think about special features needed by the dog to live in snow land.

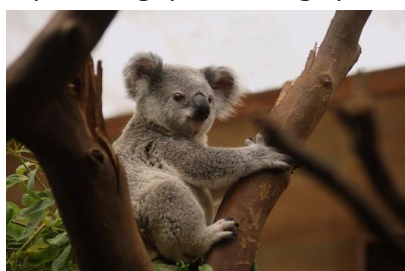
Suggested Answer: Dogs would need to have hooves to walk in the snow and fur to protect their body from the extreme cold weather.

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Inquisitive Questions	Living organisms and Ecosystem	Animals in different habitats different habitats

5. DD_Habitat in daily life

1. A arboreal habitat is a home for organisms that live on trees They have special paws and claws

To help them climb and jump from tree to tree. Koala lives on trees. Trees are their habitat. They are seen hugging the trees to cool their bodies. Koalas protect themselves from predators by spending their time high upon trees. They only descend to move from tree to tree or to drink water. They have sharp claws that provide grip, and rough pads on the hands and feet make koalas ideally adapted for life on trees.



2. Terrestrial habitat is relevant for a deer because of its speed by which it can escape from predators, long ears to absorb the slightest sound and eyes on the side of the head to catch the movement of enemies.



3. Animals such as fishes live in aquatic habitat.

- Fish have gills to “breathe” in oxygen from water.
- Their streamlined body reduces water resistance when they swim.
- The fins are used for swimming to propel themselves through the water and steer the body as they swim



4. Heron has a sharp and pointed bill to catch the prey. It slowly catches its prey and stabs it with the bill. This adaptation is well suited to live in a wet land habitat.



5. Animals in the polar regions such as polar bear have padded feet to walk on the snow. Thick fur and a layer of fat under the skin to protect from cold. Small ears and tail to minimize heat loss.



CCO: Koala on tree: <https://pixabay.com/photos/koala-mammals-wildlife-nature-fur-3055832/>

CCO: Forest: <https://pixabay.com/en/roe-deer-animal-wild-forest-nature-2753320/>

CCO: Ocean: <http://maxpixel.freegreatpicture.com/Fish-Manta-Ray-Manta-Ocean-Underwater-Ray-Sea-2064537>

CCO: Heron: <https://pxhere.com/en/photo/1546621>

CCO: Polar bear: <https://pixnio.com/fauna-animals/bears/white-polar-bear-on-snow-ursus-maritimus>

Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Day-to-day Relevance	Living organisms and Ecosystem	Animals in different habitats different habitats

6.SA_Environment Watch

Aim: To study their surrounding in and around t. hem.

Materials required: Paper, pen.

Class Setting: Whole class/Group activity

Procedure:

1. Teacher should divide the class into four groups- Insects, Animals, Birds and Plants.
2. The groups should collect pictures of the subject allotted to them.
3. Students have to study their environment and identify the plants or animals or insects or birds according to the group they receive.

4. The students have to study the characteristic features of the group they receive and recognize the living beings around them.
5. The teacher sets a day for the project which has to be implemented in the class..

The teacher gives the students a chart to fill up-

Observation: To be noted as follows.

Sl.No.	Picture of the animal	Habitat [surrounding]	Adaptation [features]

Question to Ponder:

1. What sort of Adaptation have you observed in a Chameleon. which is commonly seen in a garden?

Ans: A chameleon has a quality of changing its colour according to its environment to protect itself, from predators.

Inference: This activity will help the students to observe their surrounding carefully.

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Suggested Activity	Living organisms and Ecosystem	Habitat(terrestrial, aquatic), components, Common characteristics of Habitat(terrestrial, aquatic), components, Common characteristics of

7. MS_Terrestrial Habitat

Terrestrial habitat contains only living and non-living things associated with land. Animals that live only on land are called terrestrial animals. The important factors influencing terrestrial habitats are rainfall, type of soil and temperature. They are the major requirement of plants and animals on land.

For example: Animals living in hot region cannot live in cold regions.



Based on the pattern of rainfall on land, the terrestrial habitat is classified into 3 types.



Forest Habitat: A forest is a habitat that has many herbs, shrubs and trees. Almost all kinds of animals live here. Forests are home to about 80% of world's terrestrial biodiversity. Forests supply the oxygen we need to survive. They provide the timber for products we use everyday.



1) Features of a forest habitat

Rainfall	Plants	Animals
200-400 cms per year	Huge trees, shrubs, plants, grasses, mosses, etc.	Many earth worms that enrich the soil, very large number of insects, centipede, millipede, large number of snails, deer, bison, rabbit, squirrel, fox, wolf, hyena, bear, snake, tiger, elephant, lion etc.

2) Grassland Habitat:

Grasslands are habitats that are covered with grasses and grass-like plants that have growing points close to the soil. These grasslands support high densities of grazing animals and hence if animals eat them, immediately more grass can grow. Grasslands are particularly fragile because the availability of water is less.



Features of a grassland habitat

Rainfall	Plants	Animals
25-75 cms per year	Mostly covered with grass and less tall trees and shrubs. The trees here have long leaves and deep roots which adapt to the hot and cold conditions here.	Grasshopper, cricket, centipede, zebra, rabbit, squirrel, snake, wolf, fox, antelopes, bison, ostrich, elephant, deer, giraffe sometimes lions in herds, etc.

Rainfall	Plants	Animals
		The brown body colour of the lion merges with the surrounding dry grass, enabling it to capture its prey. The placement of its eyes helps it to correctly locate its prey and the long claws in the front toes help it to kill the prey. The deer has strong teeth to eat hard stems and leaves. It has long ears to hear the movements of its enemy and the eyes on the side helps it to look in all directions for danger. It exhibits great speed to escape from its enemy.

Desert Habitat:

Desert habitat is characterized by less rainfall or no rainfall. The land is dry and covered with sand all over. Desert plants and animals absorb and conserve water for a long period to survive the drought conditions.



Features of a desert habitat

Rainfall	Plants	Animals
Less than 25 cms per year or no rainfall	Cactus, thorny shrubs, date palm trees	Camels, snakes, desert rat, etc.

Mountain Habitat

1. Mountains are cold and windy and in some areas there may be snow fall in winter.
2. A large variety of plants and animals live in the mountains. As one goes up, the surroundings change and many types of adaptation can be seen.



ANIMALS

They have thick skin or fur to protect them from cold.

Example-Yaks have long hair, mountain lions have thick fur and mountain goats have strong hooves to climb up the rocky slopes.



MOUNTAIN YAK & MOUNTAIN GOAT

PLANTS

Mostly conical shaped with needle shaped leaves to help in the sliding of rain water and snow. There are also many other types of trees according to the habitat of that particular area.



Rainfall	Plants	Animals
Snowfall occurs in winter	Coniferous trees (spruce, pines)	Bighorn sheep, mountain goats, brown bear, black bear, grizzly bear, mountain lions and antelope.

CCO: Desert: <https://pxhere.com/en/photo/717918>

CCO: Forest: <https://pxhere.com/en/photo/638918>

CCO: Elephants: <https://pxhere.com/en/photo/779247>

CCO: Grass: <https://pxhere.com/en/photo/631692>

CCO: Forest: <https://pixnio.com/nature-landscapes/forest/scenic-view-of-forest-habitat>

CCO: Grassland: <https://pixnio.com/fauna-animals/bison-buffalo/bison-herd-grazing-at-the-national-bison-range>

CCO: Desert habitat: <https://pxhere.com/en/photo/69901>

<https://pixnio.com/nature-landscapes/mountain/national-park-mountain-climbing-valley-sky-hike-nature-landscape-mountain-tree-outdoor>

<https://pixnio.com/nature-landscapes/mountain/altitude-peak-range-snow-mountain-landscape-mountains-winter>

<https://www.maxpixel.net/Cattle-Horns-Himalayas-Manali-Solang-Yak-Nandi-1978065>

<https://www.maxpixel.net/White-Fur-Mountain-Goat-Looking-Nature-Wildlife-949430>

<https://pixabay.com/photos/lake-tahoe-trees-mountain-pine-1606969/>

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Main Script	Living organisms and Ecosystem	Habitat(terrestrial, aquatic), Habitat(terrestrial, aquatic)

8. IQ_Why adapt?

[Notes to the teacher - Teacher may enable the students to think and come out with as many answers as possible before giving out the right answer/ answers]

Q1: Man is a terrestrial animal. Why can not man survive in water?

Suggested Answer: Man cannot make water as his home because he does not have essential organs to survive in water.

[Teacher may discuss the organs which help water animals to survive in their environment].

Q2: Why do birds have different types of beaks?

Suggested Answer: Birds have different types of beaks according to their food habits.



Eagle has a short and strong beak with hooked upper jaw to tear the flesh.



Spoon bill has a flat bill with the tip like a spoon. It uses its bill like a shovel and gets its Food from the water.



Woodpecker has chisel like bill to drill holes in the bark of the tree to catch insects.

Q3. What are the two things that show that animals have adapted to a certain environment?

Suggested answer: Body changes and change in behaviour.

Q4. Can you give examples for body changes and behavioural changes of animals for adapting to a certain environment?

Suggested answer- In hot countries animals are nocturnal. They come out in search of food at night as nights are cooler. This is a behavioural change. In very cold countries animals have fur to protect their body. This is a body change to survive the cold.

Image source:

<https://pixabay.com/photos/golden-eagle-bird-of-prey-scotland-2513225/>

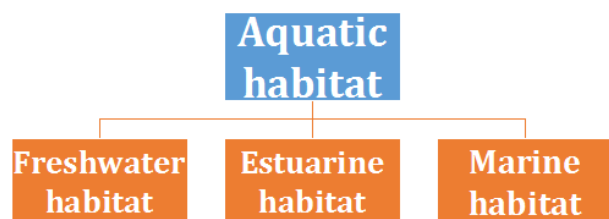
<https://www.publicdomainpictures.net/en/view-image.php?image=49565&picture=the-spoonbill-12>

<https://www.publicdomainpictures.net/en/view-image.php?image=243213&picture=pileated-woodpecker-close-up>

Time to teach	Asset Type	Theme	SubTheme
4 Minutes	Inquisitive Questions	Living organisms and Ecosystem	Common characteristics of I Common characteristics of I

9. MS_Aquatic Habitat

Aquatic habitat is the habitat around the world that is dominated by water. Aquatic habitat is mainly divided into three categories based on the salinity (salt content) in the water.



1) Fresh water habitat:

Fresh water habitat includes both standing as well as flowing water bodies. These water bodies possess very less amount of salt or salinity, it is less than 10%. Fresh water habitats are highly variable. Pond, tank, reservoir, dam, spring, streams, lagoons, wet lands, swamps and rivers come under fresh water habitat.

Animals living here possess a peculiar problem. The water from surroundings tends to enter into the body fluids. Due to this, the minerals come out of the body and cause sickness or diseases to animals. So, the animals adapt themselves according to the surrounding habitats. Rain water is the main source of water for fresh water rivers, which then flows back into the sea. Fresh water habitats are home to many animal species such as fishes, amphibians, reptiles, insects, birds, etc.



2) Estuarine Habitat



Estuarine habitats are found where fresh water from rivers and streams mixes with the salty marine water like ocean water. The salinity is between fresh water and marine water. The animals living here show adaptation for their survival. Some examples of animals living here are as follows:

Invertebrates= Sponge, jellyfish, planaria, hydra, prawn, water scorpion etc

Vertebrates = tortoise, crocodile, whale, walrus etc.

3) Marine Water habitat:-

Marine water habitat is more saline compared to fresh water habitat. It has more than 3.5% salinity. Sea and oceans come under marine habitat. The adaptation of animals here is exactly opposite when compared with fresh water habitat. The water from the body tends to move out and minerals like salt enter inside the body.

Animals which can withstand high content of salt can live in marine water habitat.

Examples of animals in marine water habitat = Whale, dolphin, shark, marine fishes, plants, seaweeds, etc.



CCO: Freshwater: <https://pxhere.com/en/photo/1253981>

CCO: Freshwater: <https://pxhere.com/en/photo/1353037>

CCO: Freshwater: <https://pxhere.com/en/photo/547427>

CCO: Freshwater: <https://pxhere.com/en/photo/122272>

CCO: Estuary in Goa: <http://maxpixel.freegreatpicture.com/Sea-Terekhol-River-Goa-Estuary-India-382354>

CCO: Sea: <https://www.pexels.com/photo/beach-calm-clouds-horizon-459522/>

CCO: Ocean: <https://pixabay.com/en/sea-fish-underwater-ocean-aquatic-1703526/>

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Main Script	Living organisms and Ecosystem	Habitat(terrestrial, aquatic), Habitat(terrestrial, aquatic)

10. IA_Unique features of some desert animals

1. The Ship of the Desert:

The most common desert animal is the camel which is called the 'Ship of the desert'. Certain features of the camel have helped the animal survive in the grueling heat and cold of the desert.

- The camel can stay without water for days. It gets its energy from fat that is stored in its hump. It uses the fat for energy when there is extreme scarcity of food and water.
- A fleshy pad joins its toes, allowing it to walk on sand. The long legs help them to keep the body away from the hot sand.



2. The ostrich found in the Kalahari Desert is the largest living bird. Although it is the fastest runner, it cannot fly. It is the only bird with two toes on its foot.



3. Jerboa or the desert rat adapts to the environment in a unique way. It comes out only at night and sleeps in its hole in the day time. It closes the entrance of its hole to prevent hot air from entering.



CCO: Camel: <http://maxpixel.freegreatpicture.com/Desert-Ship-Camel-Desert-Ride-Sand-4319>

CCO: Ostrich: <https://pixabay.com/en/bird-ostrich-nature-wildlife-2232746/>

CC: Jerboa: <https://www.flickr.com/photos/nostri-imago/3425888246> (Attribution - [Cliff](#))

Time to teach	Asset Type	Theme	SubTheme
4 Minutes	Interesting Asides	Living organisms and Ecosystem	Adaptation- Meaning & Definition Adaptation- Meaning & Definition

11. MS_Habitat and adaptation

A habitat is a place where an organism lives. To live in a particular habitat the organisms need to have specific features and habits to suit their surroundings. These features and habits present in animals and plants is called adaptation.

For example:

1. Ducks have webbed feet. The webbed feet help the ducks to swim in water.



2. Eagles have sharp claws, which help them to catch their prey while flying.



All living organisms have to adjust and adapt to the climate and the surroundings of their habitat. Adaptation makes an organism better suited to its environment.

- When organisms adjust to a condition, they become used to a new condition around them.
- For example: If a person has to go to a mountain region where the pressure of oxygen is low, man has to increase the number of red blood cells in his body in order to improve the capacity of blood to transport.

We find different types of animals living in the same habitat. But they do not use the same way to adapt to their environment. This is because they have different shaped bodies. Different animals living in the same habitat use different ways to adapt to their environment.

Adaptation in desert habitat.

We find camels in the desert. We also find snakes and rats in the desert.



Camels have long legs to keep their body away from the heat where as snakes and rats live in burrows during daytime to stay away from heat.



We all know that deserts are too hot places to live. In order to suit the climate the plants present in the desert have very small leaves or no leaves at all. Leaves are modified in spines in order to conserve water. The desert plants lose very little water through transpiration. The stem carries out the process of photosynthesis.



Adaptation in grassland habitat

Lions live in grasslands. They have light –coloured bodies. The light colour of the body helps them to hide during hunting. When an animal hides in its habitat with the help of its body colour its called camouflage.



Deer also live in grassland. They feed on hard stems of the plants. In order to eat these hard stems they have strong teeth. They also have long ears to sense the presence of their enemies.



Adaptation in mountain regions

Mountains are cold places to live. The mountains are also steep. In order to adjust and adapt to this environment, the animals that live in these regions have special characteristics.

For example:

Snow leopard has thick fur on its body to protect itself from cold.



Mountain goats have strong hooves to climb the rocky mountains.



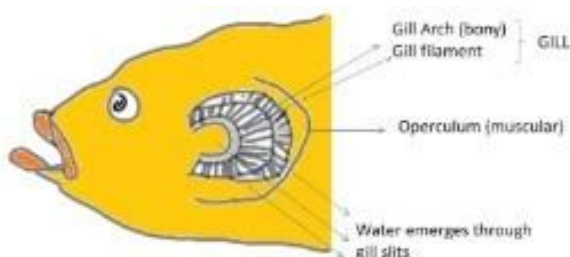
The trees present in the mountains are cone shaped. The branches are sloping. The leaves are needle-like. When rainwater falls on these plants it slides down easily.

Example: Oak, pine, deodar



Adaptation in aquatic habitat

Most of the animals such as fishes living in water have gills to breathe the oxygen dissolved in water.



Some other animals like whales, dolphins have nostrils which are also called blow holes. Then nostrils are present on the top of their heads.



The dolphins and whales come out at regular intervals and breathe oxygen through blowholes.



Fishes have streamlined bodies to help them move easily through water.

- The plants present in ponds and lakes have small roots and long stems. Few plants are submerged in water.
- A variety of organisms live under water, while frogs can live under water as well as on land.

Links for the images used in this asset:-

Duck – SSSVV Gallery

Eagle - SSSVV Gallery

Desert - <https://pixabay.com/photos/camel-desert-sand-mongolia-692648/>

Rat – <https://www.flickr.com/photos/26344495@N05/30311234443/> (Attribution – Ivan Radic)

Desert plant - SSSVV Gallery

Lion – <https://pxhere.com/en/photo/1244346>

Deer - SSSVV Gallery

Snow leopard – <https://pixnio.com/fauna-animals/cheetahs-leopards-jaguars-panthers-pictures/tree-snow-leopard-animal-predator-winter-landscape>

Mountain goat – <https://www.publicdomainpictures.net/en/view-image.php?image=173677&picture=mountain-goats-at-the-top>

Pine – SSSVV Gallery

Blowhole – <https://www.pxfuel.com/en/free-photo-eicmr>

Fish - SSSVV Gallery

Fish lung - SSSVV Gallery

Time to teach	Asset Type	Theme	SubTheme
12 Minutes	Main Script	Living organisms and Ecosystem	Adaptations of animals in p tropical rain forests, AdaptatDefinition, Adaptationsofan regionsandtropica lrainfor Meaning &Definition

12. IA_Interesting facts on Habitat

•We see that grass grows, even after its been eaten by animals. This is possible because grass sprouts from bottom and not from the tip.



•Most of the animals that live in the grass land habitat live under ground. This is because grass lands provide them shelter and burrowing protect them from enemies and extreme weather conditions.

•Sunlight enters the ocean's surface, to a depth of only about 650ft (200m). There is not much light entering beyond this region. After 200m, is the twilight zone, it is much dimmer in this zone. Next to the twilight zone is the deep zone. In this zone, it is absolute dark. There is no light penetration. This zone is also very cold.



•Animals like cockroaches are a nuisance but they are very important in a habitat. They eat the dead plants, break them down into simpler compounds and recycle the nutrients back into the soil. The soil becomes rich and helps the plants to grow.

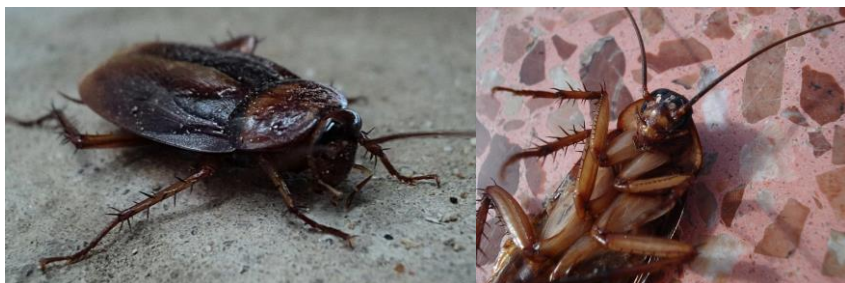


Image source:

Grass: SSSVV Gallery

Ocean: SSSVV Gallery

Cockroach 1: <https://pixabay.com/photos/cockroach-beetle-pest-insect-wing-70295/>

Cockroach 2: <https://pixabay.com/photos/cockroach-animals-nature-dead-15093/>

Time to teach	Asset Type	Theme	SubTheme
3 Minutes	Interesting Asides	Living organisms and Ecosystem	Habitat (terrestrial, aquatic), Habitat (terrestrial, aquatic)

13. VC_Follow the leader

Introduction

Life is beautiful but one tends to realize this only when one is able to adapt to different situations. In the animal kingdom, camels are built for survival in extremely hot climatic conditions like those found in deserts. Camels can survive for as many as six months without food and for many more without water.

Similarly, penguins are extraordinarily tough animals which can survive for a month in extremely cold temperatures of 70 degrees and below. The desert and these have very different surroundings and we find different kinds of plants and animals in these two regions. The presence of special features in them which help a plant or an animal to live in its surroundings is called adaptation. In the same way, human beings are endowed with all capabilities. Hence just like plants and animals who so easily adapt to varying conditions, human beings must also adapt to the varying circumstances of life, even if some of the situations are not to our liking. If we are able to do that, life becomes less stressful and more meaningful.

Learning Domain- Classroom

Suggested Activity:

Procedure:

1. Follow the leader is a children's game.
2. First a leader or & quote ; head of the line & quote ; is chosen, then the children all line up behind the leader.
3. The leader then moves around and all the children have to mimic the leader's actions.
4. Any players who fail to follow order of what the leader does are out of the game.
5. When only one person other than the leader remains, that player becomes the leader, and the game begins again with all players joining the line once again.

Quotation:

It is not the strongest of the species that survives, nor the most intelligent. It is the one that is most adaptable to change.

Conclusion

The player wins the game because he is able to adapt to the different circumstances, that he is put in and his ability to work with others in a co-operative way.

Time to teach	Value Type	Value Sub Type	Value Attribute
5 Minutes	Peace		Stories

14. IA_Polar Habitat

Earth has two poles the North and the South pole. These poles have polar habitats. They are cold and icy. Polar regions have very short summer season and long, harsh cold winters. Animals such as polar bear, arctic foxes survive there because they have thick fur all over their body. They have very well adapted to live in this environment.

**DO THE ARCTIC AND ANTARCTICA DIFFER?**

The Arctic surrounds the North Pole. It is a frozen ocean. Animals such as polar bears and arctic foxes live here.

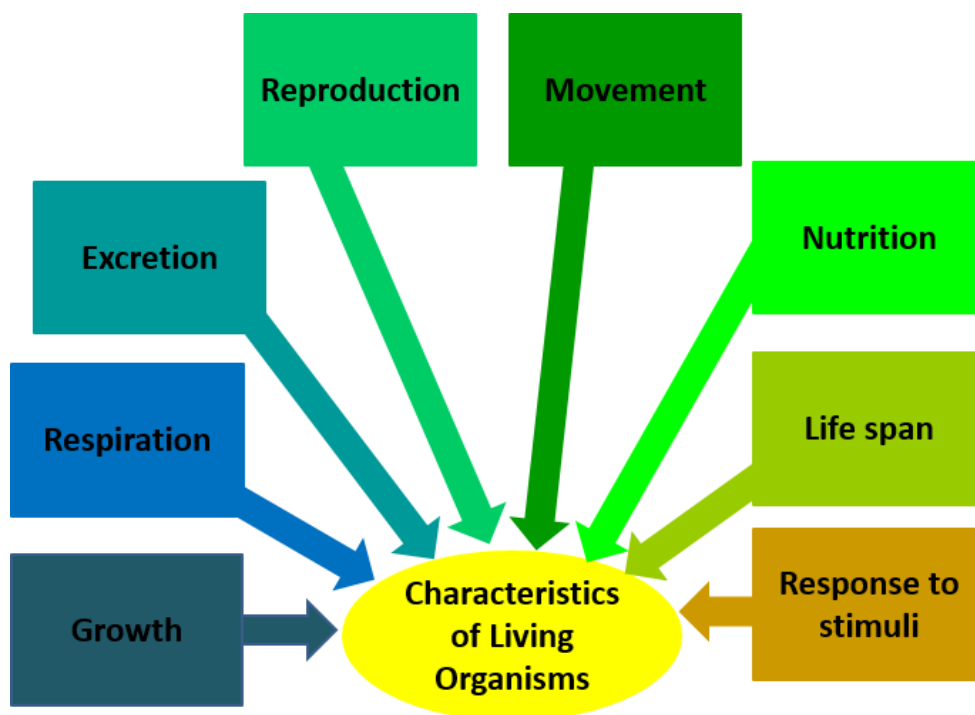
Antarctica surrounds the South Pole. It is a frozen continent. It has very few animals. The ocean around it is rich in nutrients and supports fish, seabirds, seals, and whales.

Polar animals: <https://www.maxpixel.net/Snow-Wolf-Polar-Bear-Ice-Husky-Mountains-Leopard-2470445>

Time to teach	Asset Type	Theme	SubTheme
3 Minutes	Interesting Asides	Living organisms and Ecosystem	Animals in different habitats different habitats

15. MS_Characteristics of Living Organisms

Living organisms have the following characteristics:

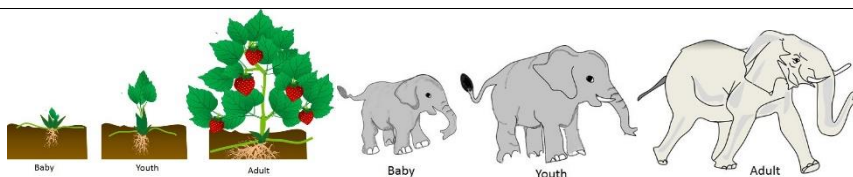


1. Growth:

Living things grow and develop. During development, cells divide again and again. As these cells divide further, they grow and take up various functions. Growth means to get bigger in size.

For example: A tree develops from a tiny seed.

Baby grows into a small child and then to an adult.



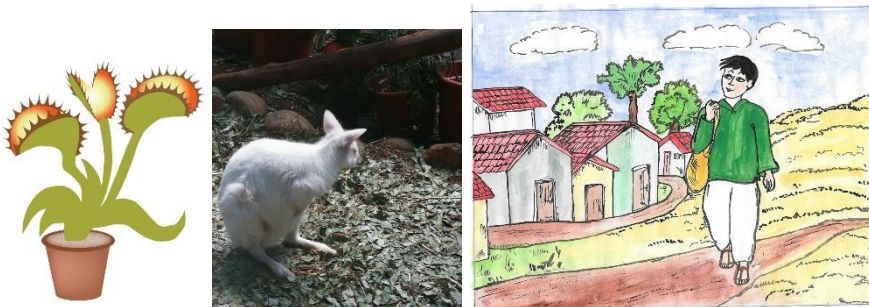
2. Movement

Many living things can move. They move to find food, shelter, to avoid danger or in response to their environment. Animals move in many different ways.

Fish use their fins to push themselves through water.

Birds use wings to fly, terrestrial animals move around with their fore and hind legs. A few carnivores are very powerful at chasing and attacking their prey.

Movements in plants are very subtle. They move towards light, if left in a dark corner. A very significant change happens when flowers blossom and close.



3. Nutrition:

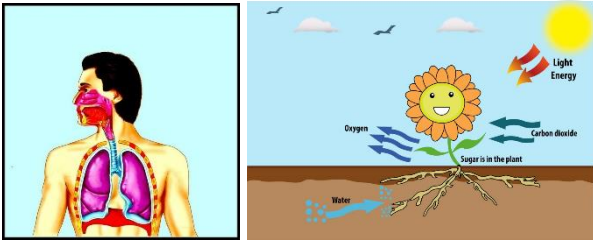
Living things need food for their growth, survival and to produce energy required for various activities.

- Nutrition is a process by which the body takes in and uses nutrients. They use food to obtain energy required for various activities, for their pair of worn out tissues and for growth.
- Plants make their own food from simple substances.
- Animals take in readymade complex food.



4. Respiration:

All living things carry out a chemical process called respiration to release the energy contained in the food.



5. Response to stimuli



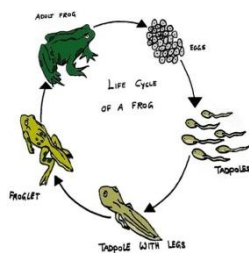
- Living things respond to their environment.
- A stimulus is a signal to which an organism responds. It is also a change in the immediate surroundings of a living thing that causes a change in the activities of the organism.
- Organisms react to stimuli like temperature, sound, heat and pressure.
- This is the characteristic which makes them different from the non-living things.
- Immune system in the body produces antibodies if any alien substances enter.
- A healthy living being responds appropriately to the environment. Sneezing keeps the dust and germs from entering into the lungs.
- Example: When we touch a butterfly, it flies away.
- The plant mimosa pudica (touch me not plant) closes its leaves when we touch it.
- Non-living thing does not reactor respond to any stimulus.
- Example: A cave is just made of stone and space which does not react, if any creature enters or leaves.

6. Life Span: The longest period of time an organism is expected to live is called lifespan.

7. Reproduction:

Giving birth to its own kind is called reproduction.

- Plants reproduce with the help of seed.
- Rose plants reproduce with the help of stem cutting.
- Mother gives birth to young baby
- Cat gives birth to a kitten
- Cow gives birth to calf
- Butterfly lays eggs, an egg becomes a caterpillar then pupa and then an adult butterfly.
- Frogs lay eggs which become tadpole which then become an adult frog.



8. Excretion:

All animals release nitrogenous waste from their body in the form of urine, urea, ammonia. Humans also release waste in the form of sweat and urine.

Image source:

Baby to adult: SSSVV Gallery
 Baby to adult: SSSVV Gallery
 Baby to adult: SSSVV Gallery
 Carnivorous plant: SSSVV Gallery
 Kangaroo: SSSVV Gallery
 Man walking: SSSVV Gallery
 Cow eating: SSSVV Gallery
 Bird eating: SSSVV Gallery
 Animals eating: SSSVV Gallery
 Bird eating: SSSVV Gallery
 Human lungs: SSSVV Gallery
 Photosynthesis: SSSVV Gallery
 Touch me not: SSSVV Gallery
 Butterfly: SSSVV Gallery
 Frog life cycle: SSSVV Gallery
 Elephant: SSSVV Gallery

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Main Script	Living organisms and Ecosystem	Common Characteristics of land animals

16. QA_The Living Organisms, Characteristics and Habitats

I. Answer the following questions:-

1. Define habitat.

Suggested answer: Habitat is a place where animals live.

2. Give some examples of habitats.

Suggested answer: Grassland, forest, desert

3. Name the components of a habitat.

Suggested answer: Biotic and abiotic components

Biotic components comprise of living organisms and abiotic components comprise of sunlight, water rainfall, temperature, salinity, soil etc

4. What are the features of aquatic habitat ? Which are the different types of aquatic habitat? Give example for each type?

Suggested answer: Aquatic habitat is dominantly composed of water. This habitat is further classified based on the salt content of the water as fresh water habitat. Example: rivers, lakes, ponds, Marine habitat- Example: seas and ocean. Estuarine habitat - Example: estuary.

5. What is a terrestrial habitat? Which are the different types of terrestrial habitat?

Suggested answer: Terrestrial habitat is composed of land. The different types of terrestrial habitats are desert, forest and grassland.

6. What type of vegetation is found in desert habitat?

Suggested answer: Desert vegetation mainly consists of thorny and spiny plants that have thick cuticle such as cactus, date and palm trees.

7. On what basis is terrestrial habitat classified?

Suggested answer: Terrestrial habitat is classified based on rainfall, soil and temperature.

8. Differentiate in 1 word.

Biotic	Abiotic
Living things	Non- living things
Terrestrial habitat	Aquatic habitat
Land	Water

II. Give Reasons:

A) Camel is able to survive in the desert.

Suggested answer: A camel is able to survive in the desert because it stores water in its hump and drinks it when ever required.

B) Fish lives in water.

Suggested answer: Fish lives in water because it has gills that helps it to take the dissolved oxygen present water in water.

III. Correct the statement.

1. Camel lives in an aquatic habitat.

Suggested answer: Camel lives in desert habitat.

2. Plants which grow in deserts are called hydrophytes.

Suggested answer: Plants that grow in deserts are called xerophytes.

3. Fish lives in both land and water.

Suggested answer: Frogs live on both land and water.

4. Opuntia is the plant that grows in water.

Suggested answer: Opuntia is the plant that grows in the desert.

5. Oil is stored in camel's hump.

Suggested answer: Fat is stored in camel's hump.

6. Soil, water and air are the biotic factors of a habitat.

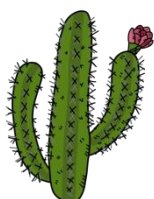
Suggested answer: Soil, water and air are the abiotic factors of a habitat.

7. Zoo is a natural habitat.

Suggested answer: Zoo is an artificial habitat.

IV) Picture Talk:

i) Name the plant and their habitat.



Suggested answer: It is a cactus plant and it lives in a desert habitat.

2. Identify the habitat. Write any three terrestrial animals



Suggested habitat : It is a forest habitat. Camel, lion, tiger

3. Name the plant and their habitat.



Suggested answer: It is grass and it is found in grassland habitat.

V) Short answers:

1. Why is speed important for survival of the animals living in the grass lands habitat?

Suggested answer: To protect themselves from predators as there are no trees for them to hide.

2. If the lion needs to survive in a desert what modification would be needed in its body?

Suggested answer: Lion should be able to retain water in the body. It would also need tall legs to overcome the heat.

3. If a rat wants to live in water what sort of adaptation would it need?

Suggested answers:

- i) Gills to breathe
- ii) Streamlined body

4. Give the special features needed by the dog to live in snow land?

Suggested answers:

- i) Fur to overcome the extreme weather conditions
- ii) A layer of fat under its skin to keep its body warm

VI) Unscramble the following words with the help of given clues.

1. NROEPIRTOCUD _____ Ability of living organisms to produce their own kind
2. MEARORWHT _____ Breathe through the skin
3. DIRLLHYA _____ Thin, rubber like leaves which allow water to pass through
4. GFOR _____ They can live both on land and in water
5. SPXYETORH _____ Plants grow in desert

Suggested answer:

1. Reproduction 2. Earthworm 3. Hydrilla 4. Frog 5. Xerophytes

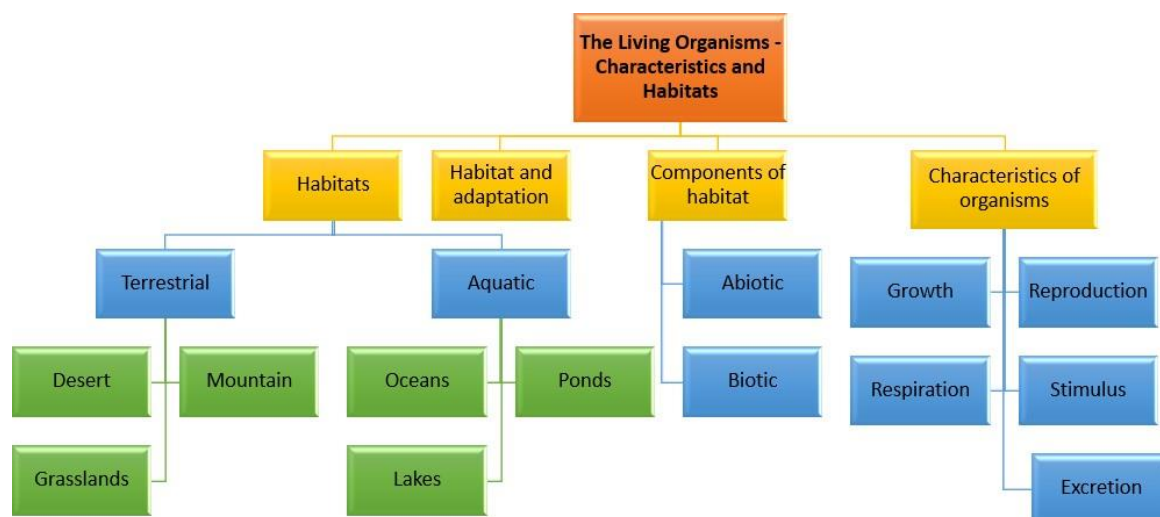
<https://pixabay.com/illustrations/cactus-cactus-illustration-arizona-3871544/>

<https://pixabay.com/photos/forest-nature-trees-grass-green-315184/>

<https://pixabay.com/photos/dew-morning-meadow-bokeh-morgentau-1507498/>

Time to teach	Asset Type	Theme	SubTheme
15 Minutes	Assessments	Living organisms and Ecosystem	Habitat(terrestrial, aquatic), Habitat(terrestrial, aquatic)

17. MS_Summary_The Living Organisms, Characteristics and Habitats



Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Main Script	Living organisms and Ecosystem	Habitat(terrestrial, aquatic), habitat, Common characteristics organisms,Animal sendiffer Adaptation-Meaning&Deficie ncyHabitat(terrest rial,aquatic), habitat, Common characteristics organisms,Animal sendifferent Adaptation-Meaning&Deficie ncy