

12

Food Chain

You may have seen many animals, birds and, insects. Note down the food habit of the following animals, birds or insects.

Name	Food (what they eat?)
1. Snake	
2. Peacock	
3. Deer	
4. Tiger	
5. Ant	
6. Fish	
7. Frog	
8. Duck	
9. Spider	
10. Lizard	

Each organism requires food to survive. The same way, there are many things which can not be taken by us as food even though those things are necessary for the survival. Discuss it and note down them in the following figure.

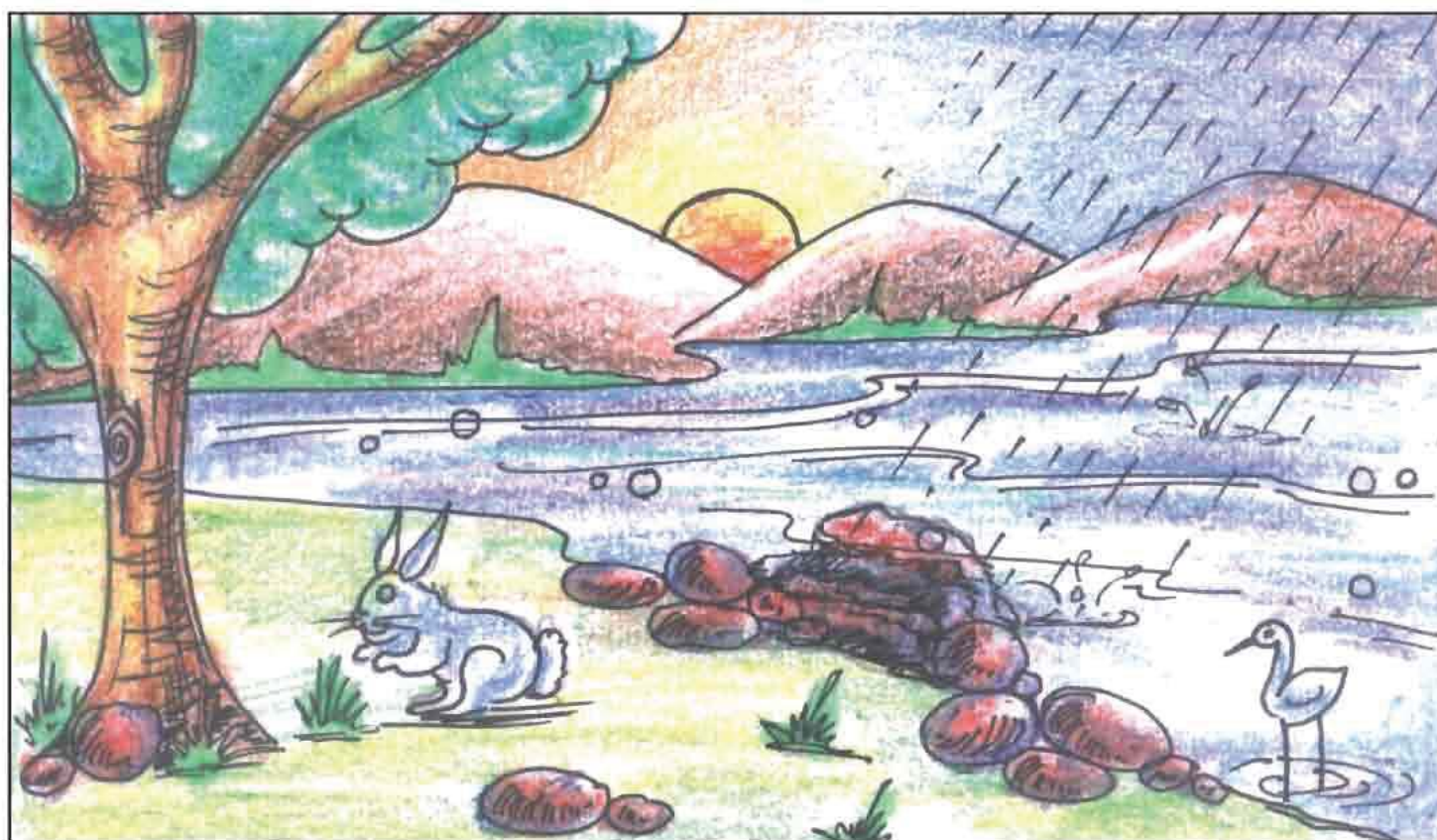


Figure 12.1

Thus, organisms are dependent on other organisms or many other non living things. Thus environment consists of two types of components.

1. **Living components (Biotic components) :** Those components which are biotic beings are called living components, eg. Animals, Birds, Insects, Microorganisms.
2. **Non living components (Abiotic components) :** components of the environment which are not living beings are known as non living components eg. light water, mountain

Above said living and abiotic components are interconnected and have their own importance

- Milk of animals like cow buffalo and goat is useful.
- All the trees are important as food or in any other way.
- Abiotic factors like air, light, energy, temperature, minerals etc are very important.

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- Plants produce their food in presence of sunlight and we use those plants as our food.
- Air and water are our basic requirements.
- We grow food on the land and we use that as food.
- We feel uneasiness when there is increase or decrease in temperature.
- Mineral salts are important for nutrition



What will happen, if the sun does not appear for a year?

You may have understood the importance of biotic and abiotic components.

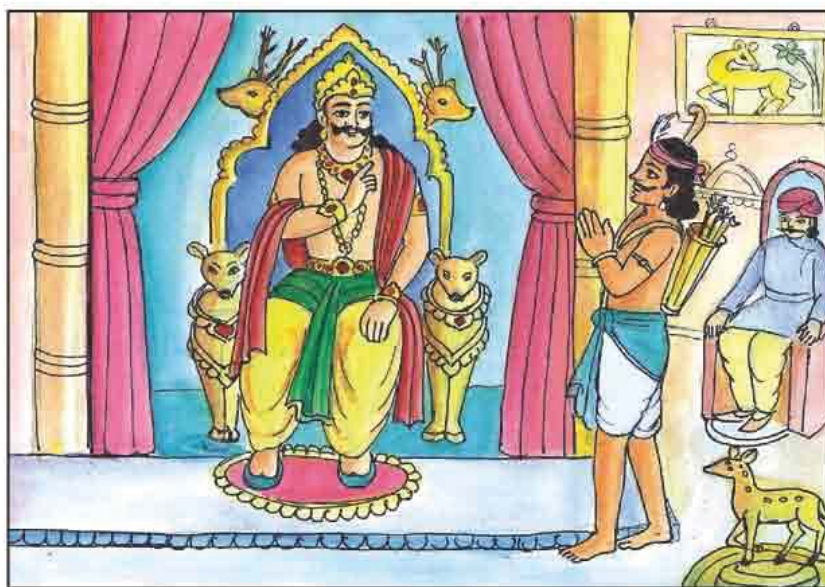


Figure 12.2

There was a king. He liked deer very much. Counting of deer population of his state was conducted once. Counting showed that there were totally 1000 deer in his state.

The king ordered “No body will hunt the deer. I want to increase number of deer, If some one is found hunting deer he will be sentenced to death”.

The counting was held again after five years, but surprisingly the total number of deer remained the same.



How has this happend?

When the king investigated, he found that like animals tiger, lion etc killed the deer for their food. Looking to that, the king ordered to trap all those animals which generally killed the deer and to send them out of his state. He also told to take care that no animal should come back to the forest again.

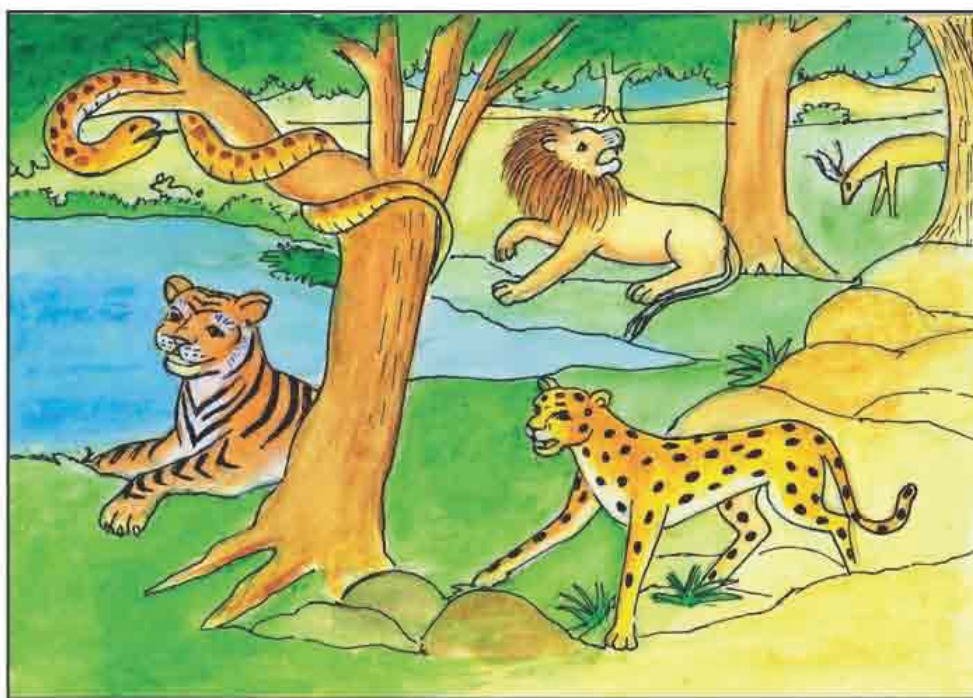


Figure 12.1

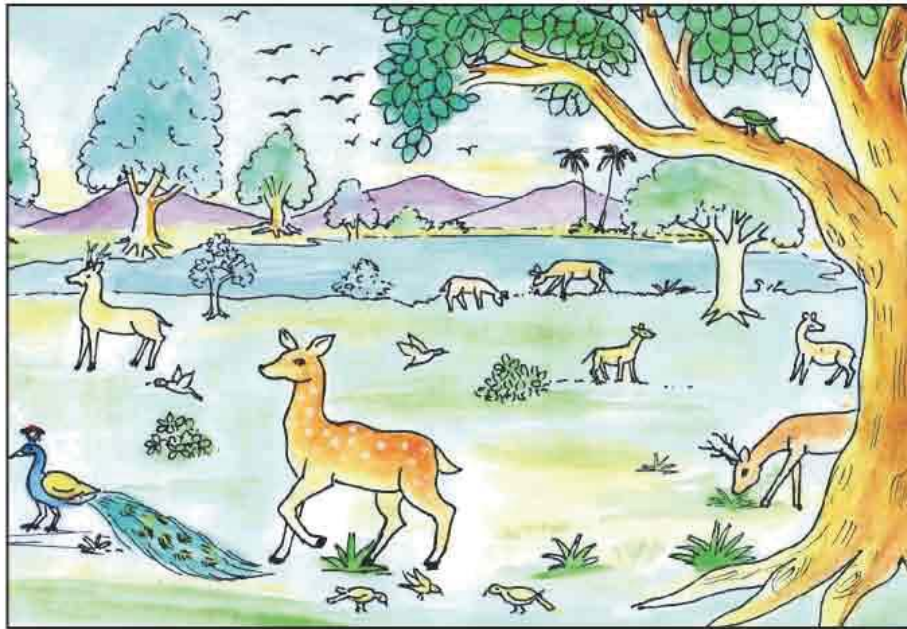


Figure 12.1



Number of deer got decreased after 3 years of obedience of the order. Why has this happened?

On investing, he found that initially deer got enough food but as soon as their number started to increase, they found difficulties in getting food and it resulted into decrease of their number. Then the king realized his mistake and solved it. Thus, each organism is related to each other for food directly or indirectly and small or big are makes importance.

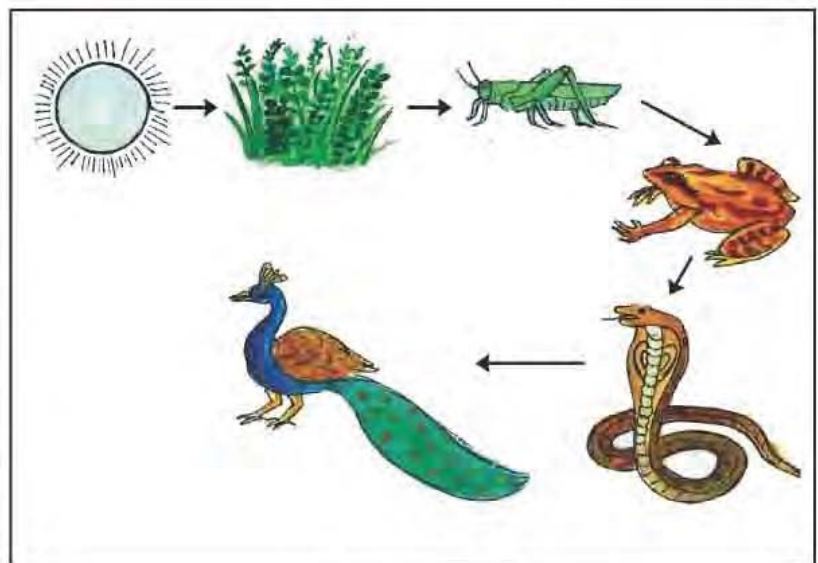


Figure 12.5

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From the figure shows that organisms are dependent on each other for their food and thus they form a food chain. We all know that the sun is the main source of energy. Green plants synthesize their own food by the process of photosynthesis in presence of sunlight. Other organisms make use of plants as food. Thus energy of plants is obtained by animals. These animals are eaten by another large animals. In this way in nature organisms are dependent on each other for food. The structure of food chain is formed on the basis of who eats whom.

Observe the following picture :

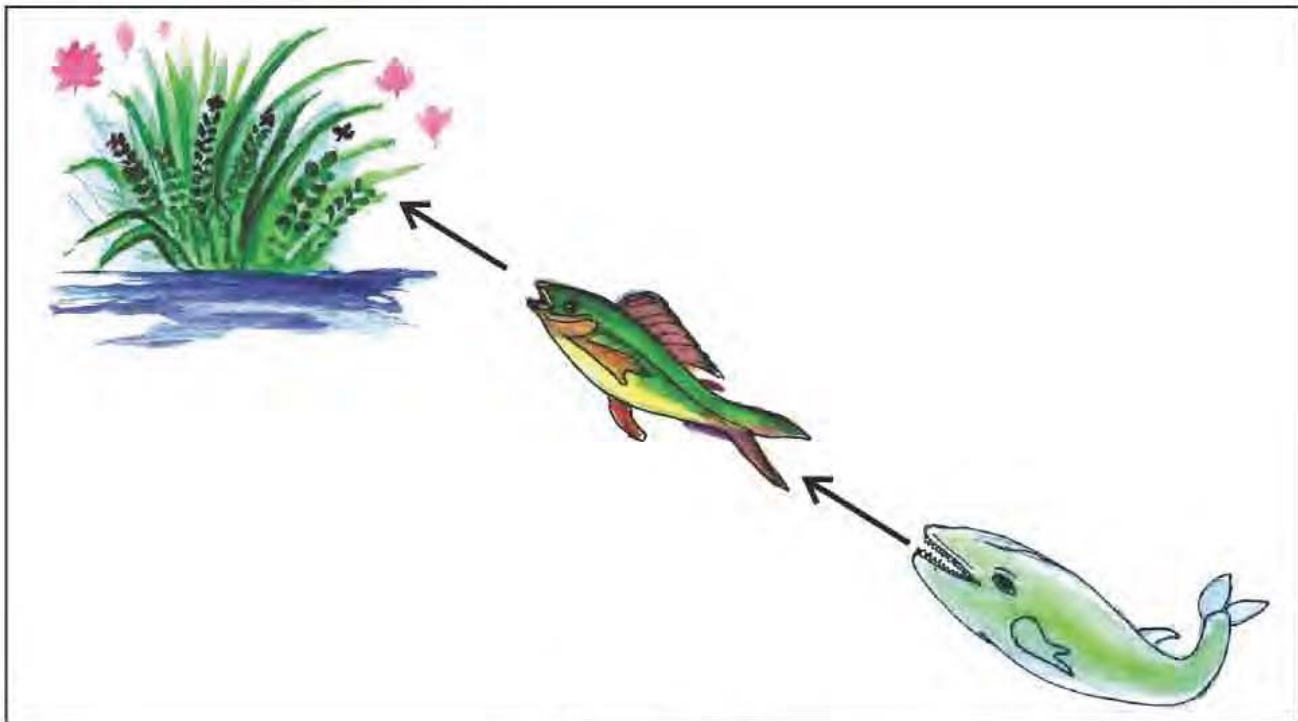


Figure 12.6

Think of any other food chain of this kind and note it down.

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Thus, many such food chains are found in the living world and in this way, they get nutrition. In most of the food chains, the sun and plants play an important role. Understand the following pyramid.

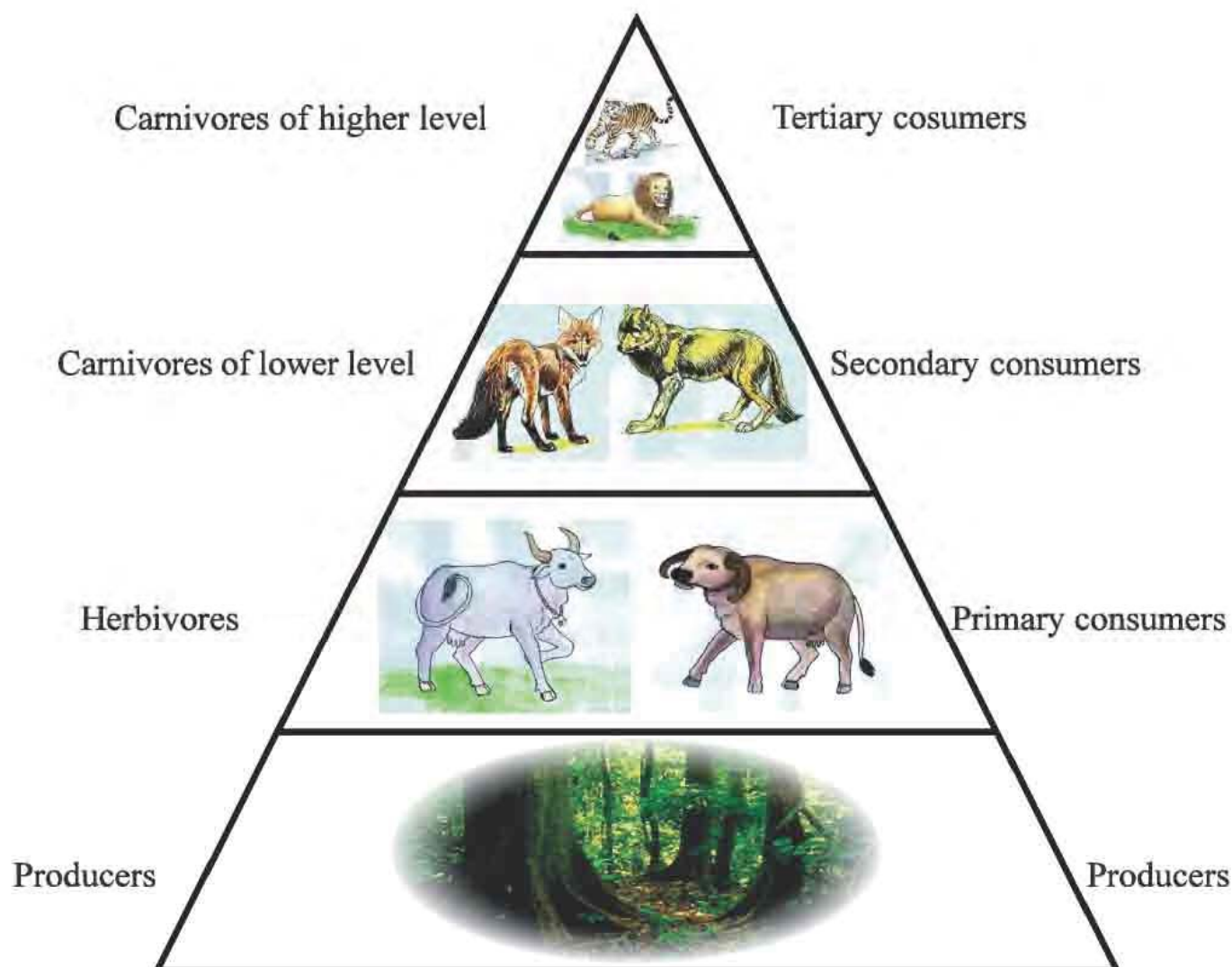


Figure 12.7

- Green plants synthesize their own food by the process of photosynthesis in presence of sunlight. Thus plants utilize sunlight directly. Hence plants are known as producers.
- Herbivores make use of plants as food and get energy.
- Thus energy flows in secondary and tertiary consumers respectively. Let us play a game.

Collect the book “Animal world” from your school library and get food habit of animals and discuss that information regarding food chain.



What is required? Cards of names of different living and non living things, long thread.

What to do?

- Hang one card each around the neck of every student. Take a ball of thread in your hands.
- Hold the end of the thread and throw the ball of thread towards the pupil who has hung the card of the thing organism which you think of your requirement.
- The student who has the ball will throw the ball in the same way. Thus a reticulate structure will be formed of the thread which can be called the food web.

Thus, each food chain is connected to one another and forms food web. In short, the food chain and the food web are important for natural balance. Hence it is our moral duty to conserve each and every individual living as well as non living things. To understand more, discuss on the bases of the picture beside.

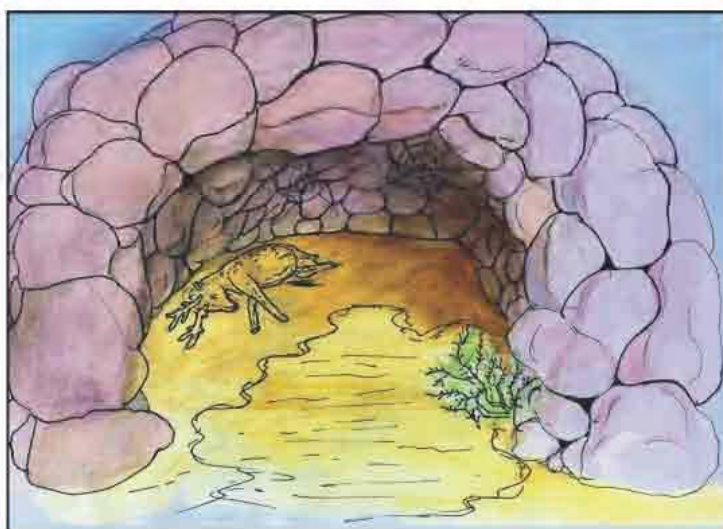


Figure 12.8



A spider web is found in this cave. Which other living and non living components may be found in this cave? Think and note down here.



Fill up the following information observing your favorite place.

Name of place

Which non living things are found at that place?

Which insects are there?

Which animals are there?

Whether dirtiness is there? which?

Note down the names of useless things.

Did you find any kind of pollution? (Air, water, soil or any other of pollution) Note down.

Now, you may have understood that different organisms live at different places and get their nutrition. But due to some reasons, many organisms have been destroyed are on the threshold to be extinct. Prepare a list of organisms which you do not find at present but were found earlier.



You must be doing the activities like (Eco club) in your village or in your school to conserve environment and to stop disappearance of such organisms. Note down such activities.



- Q.1** Write names and importance of any five biotic components of the environment.
- Q.2** Note down names of any five abiotic components of the environment and write their importance.
- Q.3** Think of any one food chain and write down.
- Q.4** If there is less amount of water and thorny trees are found, which type of animals can be found there?

Animals : _____

Birds : _____

Insects : _____

Plants : _____

- Q.5** Prepare a list of plants, animals and abiotic components found in your village and also try to find relation between them.

