



We all start our day with breakfast, at noon we take lunch and our day ends with dinner. My breakfast contains sprouts, some fruits and a glass of milk. At lunch I take dal, chapati, rice and sometimes curd. At dinner I take fresh vegetables, chapati and salad.

In this chapter, we will learn about :

1. The various sources of food.
2. Types of food obtained from
 - (i) Plants
 - (ii) Animals
3. The different food habits of humans and animals

INTRODUCTION

All living things need energy to do work. They get this energy from the food. The material which we eat is known as food. Food is also essential to build and maintain our body. So food is the basic necessity of our body just as air and water. We need food for growth and development, to get energy, to carry out different functions, for repair and maintenance of body and to fight against various diseases.

We must eat proper food to stay healthy. Both lack of food intake and overeating could be harmful to us. Different people of different regions eat different types of food. Different kinds of food come from different sources. We have to eat different types of food daily just to maintain our health.

Activity 1

The food of people living in different regions depends upon various factors like the climate or the crops grown in that region. With the help of books or the Internet find what kinds of food are eaten by the people of following regions.

	Regions	Kinds of food
1.	Uttar Pradesh	_____
2.	Punjab	_____



	Regions	Kinds of food
3.	Chennai	_____
4.	Kolkata	_____
5.	Mumbai	_____
6.	Capetown, South Africa	_____
7.	New York, USA	_____
8.	London, UK	_____

WHERE DOES ALL THE FOOD COME FROM?

Think about the different types of food you have had yesterday and today. Where do these types of food come from? What are their sources?

We get all these food from both animals and plants. Some food is eaten in raw form while some can be cooked after mixing different food materials. These materials are called ingredients. For example ingredients of corn pulao are corn, rice, salt, tomatoes, spices and water. Ingredients come from different types of plants and animals.



Activity

2



Today your mother makes chana masala, dal makhani, butter naan, chocolate cake and jeera rice for you. Find out the ingredients in them. You can take help of your mother/class teacher or any recipe book or the Internet also.

	Food Items	Ingredients
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

WHAT FOOD WE GET FROM PLANTS?

Plants are the primary source of food. Green plants are known as autotrophs or producers because they make their food by the process of photosynthesis. All other living organisms including humans depend on plants for their food. These organisms are called heterotrophs or consumers.

There is a large variety of plants on Earth. Many of these provide us a large number of edible substances which come from different parts of plants. Some of them are given below.

1. Potato, onion and ginger are stems of plants.
2. Guava, grapes, oranges and papaya are fruits of plants.
3. Radish, carrot, beetroot and turnip are roots of plants.



4. Seeds of mustard, cumin and melon are used in cooking food.
5. Leaves of spinach, lettuce, methi and mustard are eaten as food.

There are some plants whose different parts can be used as food. Such as, from the banana tree we get the fruit, and its flower and stem are used as vegetables.

However, all plants are not edible. Some plants are eaten by animals but not by human beings.

Food obtained from plants can be divided into following categories.

Fruits

Fruits generally contain carbohydrates, minerals, vitamins and antioxidants. They are usually consumed raw but are also used in making a lot of sweet dishes.



Fruits

Interesting Fact

The kiwi fruit contains vitamin C two times than orange.



Kiwi

Vegetables

Vegetables include stems, roots, leaves and fruits of different plants. Some vegetables are eaten raw while others are cooked before consuming. They generally provide carbohydrates, vitamins, minerals and roughage. Different types of vegetables are given below.

1. Potato, onion, arum and ginger are the stems of the plants.
2. Cucumber, tomato, pumpkin, lady finger and brinjal are fruits of different plants.
3. Radish, carrot, sweet potato and beet are the roots of the plants.
4. Cauliflower and broccoli are the flower parts of the plants.



Vegetables

Cereals

Cereals such as wheat, maize, rice, oat, etc., are energy rich grains, obtained from grasses. They are rich in carbohydrates along with some proteins, vitamins and minerals.

Wheat grains are ground to make flour which is used to make chapati, bread, etc.



Wheat



Rice

Interesting Fact

The sprouts can be eaten raw or boiled as a snack after adding salt and spices to them as per your taste.



Chana



Lobia



Oils

Oils

Oils are fat-rich food obtained from seeds of different plants such as sesame, groundnut, sunflower, coconut, etc.

Interesting Fact
Sesame oil and olive oil are good for heart patients.

Pulses

Pulses and grains are rich in proteins. They constitute the most important part of our food. Arhar, kidney beans, moong, masoor, chickpea, etc. are pulses.

Sprouted grains of moong and chana are very nutritious.



Masoor



Chickpea

Activity 3

A healthy way of eating chana is to make sprouts of it.

Take some seeds of chana. Wash them thoroughly with water. Strain the water and cover them with clean and wet cloth. Leave them for about 24 hours. You will find the grains have sprouted.

You can make your sprouts more delicious by adding some ingredients such as tomato, onion, salt, pepper and lemon juice.



Sprouted Chana

Beverages



Coffee



Tea

Coffee, tea and cocoa are beverages. Leaves of tea plant are dried, processed and then used to make tea. Coffee beans are ground to make coffee powder. Cocoa beans are used to make chocolate.

Spices

Spices are important ingredients of cooked food. They impart different flavours to the food. Many spices are good sources of minerals and other substances beneficial for our body. Some common spices are given as under:

- 1. Black pepper (Kali Mirch) :** It is used as seasoning in food, contains manganese and vitamin C. It has lots of health benefits.
- 2. Garlic (Lehsun) :** It is an ingredient for flavour in Indian food. It has many medicinal properties.
- 3. Cumin (Jeera) :** Extensively used in Indian food, good source of iron.



Spices

4. **Turmeric (Haldi)** : It gives colour to food. It has many medicinal properties as a painkiller and antiseptic.
5. **Ginger (Adrak)** : It is used as an ingredient in Indian curries, source of fibre, vitamin E and antioxidants.

There are many more spices used in cooking food.



Sugarcane plant



White sugar and Brown sugar

Sugar

Sugar is the most common carbohydrate consumed all over the world. Its chemical name is sucrose and it is present in the stem of sugarcane plant. It is separated from the sugarcane juice by chemical processes in a sugar mill.

WHAT FOODS WE GET FROM ANIMALS?

Animals are also some important sources of food for us. We get milk, eggs, honey and meat from animals.

Milk Products

Milk is an important part of our diet. The main sources of milk for us are buffaloes and cows along with goats and sheeps. Different foods made from milk are known as dairy products. These include butter, cheese, ghee and cream.



Paneer



Cheese



Ghee



Butter

Interesting Fact

Milk is labelled as complete food because it packs all essential nutrients like carbohydrates, proteins, fats, fibres and essential vitamins.



Milk

Fish or Seafood

Fish meat is a rich source of proteins and vitamins. There is a vast variety of fish available in freshwater bodies and seas. Rohu and hilsa are common freshwater fish eaten in India. Apart from fish, prawns, crabs, lobsters and clams are some marine animals which are consumed as food.



Seafood



Eggs



Chicken

Eggs and Meat

Egg is a rich source of proteins and vitamins. Eggs are obtained from hens and ducks. Meat is obtained from poultry (hen, duck, goose, chicken) and animals like goat, sheep, fish, prawns, etc. Fish meat is rich source of proteins and vitamins.

Poultry

Poultry is a place where domesticated birds like, duck, chicken, hen, turkey and geese are kept by humans for the eggs they produce, their meat, feathers, or sometimes as pets.



Poultry



Honey

Honey

Honey is a sweet food which is a rich source of sugar and minerals. It is produced by honeybees from the nectar of flowers. It is used extensively in cooking and in making medicines. Pure honey can be stored for years without getting spoilt.

WHAT DO HUMANS AND ANIMALS EAT?

Consumers or heterotrophs have different eating habits. Humans and animals can be divided into following three main categories based on their eating habits.

1. Herbivores
2. Carnivores
3. Omnivores

Animals fall into three distinct groups based upon what they eat. This is a natural way to group animals. Plant eaters are herbivores, meat eaters are carnivores and animals that eat both plants and animals are omnivores.

Herbivores

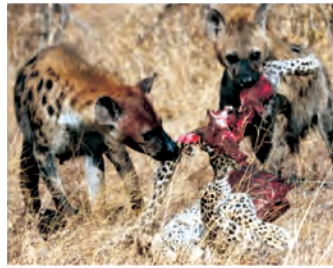
Any animal that eats only plants will be classified as herbivore. Just because they don't eat meat doesn't mean all herbivores are small. Guinea pigs, rabbits, bees and butterflies are all good examples of small herbivores, but horse, cow, zebra, deer and elephant are herbivores as well. In prehistoric times, many dinosaurs ate only plants and they reached gigantic proportions. Many different types of animals can be herbivores, including mammals, insects, worms, invertebrates and even some birds.



Herbivores

Carnivores

Any animal that sustains itself solely on meat is classified as a carnivore. Carnivores often have sharper teeth or even fangs to help tear up flesh. Most of the time in their ecosystem, carnivores will prey on herbivores though they may eat omnivores or even other carnivores depending on what food is available. Small carnivores can include spider, frog and bat. Medium-size carnivores might include snake, anteater and larger birds, such as eagle and hawk. Large carnivores range from wild dog and wolf to large predators like lion, tiger and crocodile.



Carnivores

Interesting Fact

Some plants are also carnivores. They trap insects since they have specialised leaves and other parts to trap insects. Venus flytrap and pitcher plant are the examples of carnivorous plants



Pitcher plant

Venus flytrap

Omnivores

Any animal that can eat both plants and animals is an omnivore. Humans are omnivores, containing flat and sharp teeth and the ability to digest meat, fruit and vegetables for food. Bear is another example of omnivores as it eats both berries and meat. Medium-size omnivores include animals like raccoon, pig and chicken.



Omnivores

Activity 4

Make a list of animals in the given table according to the food they eat.

S. No.	Herbivores	Carnivores	Omnivores
1.	Deer	Lion	Crow
2.			
3.			
4.			
5.			
6.			

As human beings are omnivores they are classified as vegetarian and non-vegetarian.

Vegetarian	Non-vegetarian
People who eat only plant products or parts of plants are known as vegetarians .	People who eat plant products as well as animal products like fish, meat, etc., are called non-vegetarians .

FOOD CHAIN

Every living plant and animal requires energy to survive. Plants rely on the soil, water and the sun for energy. Animals rely on plants as well as other animals for energy. In an ecosystem, plants and animals all rely on each other to live. Scientists sometimes describe this dependence using a food chain or a food web.

Food Chain

A food chain describes how different organisms eat each other, starting out with a plant and ending with an animal. For example, you could write the food chain for a lion like this:



The lion eats the zebra, which eats the grass. Here is another example in picture form:



The grasshopper eats grass, the frog eats the grasshopper, the snake eats the frog and the eagle eats the snake.

Links of the Chain

There are names to help describe each link of the food chain. The names depend mostly on what the organism eats and how it contributes to the energy of the ecosystem.

- ❖ **Producers** : Plants are producers. This is because they produce energy for the ecosystem. They do this because they absorb energy from sunlight through photosynthesis. They also need water and nutrients from the soil, but plants are the only place where new energy is made.
- ❖ **Consumers** : Animals are consumers. This is because they don't produce energy, they just use it up. Animals that eat plants are called primary consumers or herbivores. Animals that eat other animals are called secondary consumers or carnivores. If a carnivore eats another carnivore, it is called a tertiary consumer. Some animals play both roles, eating both plants and animals. They are called omnivores.
- ❖ **Decomposers** : Decomposers eat decaying matter (like dead plants and animals). They help put nutrients back into the soil for plants to eat. Examples of decomposers are worms, bacteria and fungi.

Let's go back to this example:

- ◆ grass = producer
- ◆ zebra = primary consumer
- ◆ lion = secondary consumer



SHOULD WE WASTE FOOD?

Food keeps us alive. However, there are millions of people in the world who do not get enough food. According to a recent UN report there are about 870 million undernourished people in the world. A majority of these live in the developing countries in Asia and Africa. It should be the responsibility of the rich and affluent nations to feed the hungry.

How do you think it can be done? Can we make any contribution towards it? Of course we can. The simple thing that we can do is not to waste food and try to share it with the needy.

Life Skill

In some countries of the world Food Banks collect and distribute food to people in a community.



Discover

Do you have a Food Bank somewhere near you?

Key Words

Food	: the materials or substances which we eat is called food
Vegetarians	: human beings that eat only plant products are called vegetarians
Non-vegetarians	: human beings that eat meat also are called non vegetarians
Dairy products	: different food products made from milk
Herbivores	: animals which eat only plants or plant products are herbivores
Carnivores	: animals which eat only flesh are carnivores
Omnivores	: animals which eat both plants and animals are omnivores

Important Points

1. Food is essential for us because it gives us energy to work and helps our body to grow.
2. We get majority of foods from plants and animals.
3. The materials which are used to prepare food items are called ingredients.
4. Animals give us milk, eggs, chicken, mutton, etc.
5. On the basis of food habits, animals are of three types— herbivores, carnivores and omnivores.
6. Plant parts such as the root, stem, leaves, flowers, fruits and seeds are eaten as food.
7. Carnivores are the animals which eat only the flesh of other animals.
8. When seeds begin to germinate by developing white tiny roots, they are called sprouts.
9. Omnivores are the animals which eat both plants and animals.
10. Sprouts are rich in vitamins and iron.

Exercise

Multiple Choice Questions (MCQs)

A. Tick (✓) the correct option :

1. Which of the following is a milk product?

(a) chocolate

(b) tea

(c) honey

(d) cheese



2. Which of these animals eats only plant parts?
 (a) dog (b) owl (c) deer (d) snake
3. Select the omnivore.
 (a) human being (b) buffalo (c) giraffe (d) rabbit
4. Which of the following is not a carnivore?
 (a) bear (b) shark (c) tiger (d) lion
5. Identify the food that is not obtained from plants?
 (a) rice (b) fruits (c) wheat (d) honey
6. Examples of decomposers are :
 (a) worms (b) bacteria (c) fungi (d) all of these

B. Fill in the blanks :

1. Carnivores are _____ eaters.
2. _____ is a plant product.
3. Human beings are _____.
4. _____ are used to prepare food items.
5. Apple, grapes, oranges and salt are the _____ of fruit salad.
6. The chemical name of sugar is _____.
7. Fish and meat are a rich source of _____ and _____.
8. Honey is a/an _____ product.

C. Match the following :

Column A

1. Lion
2. Tomato
3. Moong
4. Buffalo
5. Spices

Column B

- (a) Milk
- (b) Ingredient
- (c) Sprout
- (d) Carnivore
- (e) Fruit

D. Very Short Answer Questions :

1. Name any three products prepared from milk.
2. Name any five fruits which we eat as food.
3. Write the name of the process of making food in plants.
4. What is produced from the nectar of flowers?
5. What are producers? Explain with examples.
6. What is used to make chapati and bread?
7. What are consumers? Explain with examples.
8. What are decomposers?
9. What do we call those animals which eat only the flesh of other animals?
10. Name the materials which are used to prepare food.

E. Short Answer Questions :

1. Define food.



2. Write the names of two food items obtained from animals. From which animals are these obtained?
3. What are Carnivores? Give two examples.
4. What is a food chain?
5. What are cereals?
6. What are Herbivores? Give two examples.
7. Who are producers and consumers?
8. What are beverages?
9. Why is food essential for us?
10. What is sprouting?

F. Long Answer Questions :

1. Why do we need food? Give three reasons.
2. What is a food chain? Define its links in detail.
3. Explain food habits of animals.
4. Do all living things prefer same kind of food? Explain with examples.
5. What are edible parts of plant? Name all of them with examples.
6. Write in detail about the foods we get from animals.
7. What do you mean by vegetables? Give some examples.
8. What is the difference between vegetarians and non-vegetarians?



Assignments

A. Read the passage and answer the following questions.

Food is the necessity of life. It provides nutrition, sustenance and growth to human body. Food can be classified into cereals, pulses, nuts and oilseeds, vegetables, fruits, milk and milk products and flesh food. Food comprises proteins, fats, carbohydrates, vitamins, mineral salts and water. Most of the food items contain all these in varying proportions. Oil and ghee are exclusively fats while sugarcane and starch contain high amount of carbohydrates. Accordingly, food items are termed as protein rich, vitamin rich, fat rich food, etc. Proteins, fats and carbohydrates are usually termed as proximate principles. Along with water, which is an important food element, proximate principles form the main bulk food. These are burnt or oxidized in the body to provide energy for the different activities of life. Consequently, different age groups need different food mix. Vitamins and mineral salts do not supply energy but they play a very crucial role in regularization of various body functions. Some of the minerals are important components of the body structures like bones and teeth.

1. What gives food for us?
2. Classify food in short.
3. Write two examples of fats.
4. What are the important components of body structures like bones and teeth.

Project

Prepare a small album containing about 50 sheets. Allot one or more sheets to each state. On sheet, paste the pictures of food items popular in that state.