ARBOR INTERNATIONAL SCHOOL

E-Learning module/file

GRADE: **VI A, B, C** MONTH/WEEK/DATE: April/ W-3/ 18-04-'22 – 23-04-'22

SUBJECT: BIOLOGY NAME OF THE TEACHER**:** Ms. Sivapriya, Ms. Ashwathi

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Notes for the parents:

- Dear parents, we hope that this learning module for the week serves its purpose with regards to student's understanding and learning.
- The learning content for the week is attached day wise in this module to facilitate learning for your ward.
- For better clarity, kindly zoom the content.
- You can enlarge the content by clicking on the right bottom corner of the screen where the zoom option is given.
- By the end of the week, the students should be able to understand the following:
    - Food obtained from plants and animals.
    - Common milk products and the methods of their preparation.
    - Classification of animals based on their feeding habits.
    - Special features of herbivores, carnivores and omnivores.
    - Scavengers and decomposers

Thank you

Ashwathi ,Sivapriya

TOPICS COVERED THIS WEEK

DAYS	**TOPIC**

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DAY - 1	**Lesson 1 : Food-where does it come from?** **Topic :Classification of animals based on their feeding habits.** **Students will complete the workbook worksheets.**
DAY - 2	**Lesson 1 : Food-where does it come from?** **Topic :Classification of animals based on their feeding habits.** **Students will complete the textbook exercises.**

CONTENT- DAY-1

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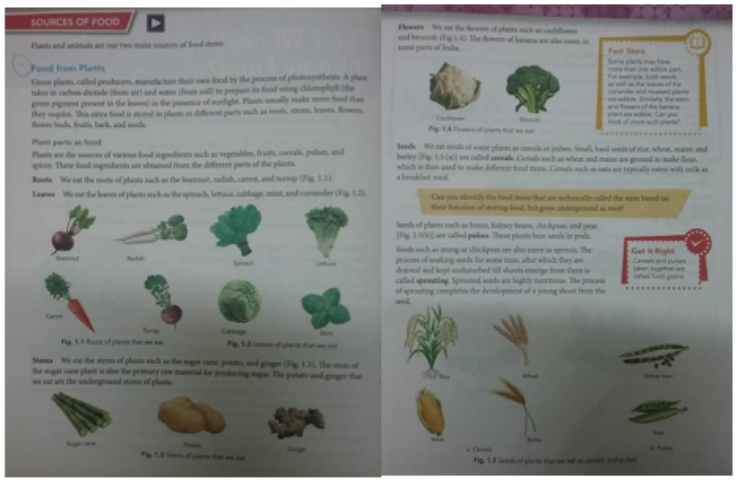
CH: 1- FOOD: WHERE DOES IT COME FROM

Students will complete the workbook exercise.

Kindly refer to page numbers 14 - 19 of the text book for the content. E- content is attached below for your reference.


SOURCES OF FOOD

Food from Plants

Plant parts as food

Roots We eat the roots of plants such as the beetroot, radish, carrot, and turnip (Fig. 1.1).

Leaves We eat the leaves of plants such as the spinach, lettuce, cabbage, mint, and coriander (Fig. 1.2).

Stems We eat the stems of plants such as the sugar cane, potato, and ginger (Fig. 1.3). The stem of the sugar cane plant is also the primary raw material for producing sugar. The potato and ginger that we eat are the underground stems of plants.

Flowers We eat the flowers of plants such as cauliflower and broccoli (Fig.1.4). The flowers of banana are also eaten in some parts of India.

Fig. 1.4 Flowers of plants that we eat

Fact Store

Some plants may have more than one edible part. For example, both seeds as well as the leaves of the coriander and mustard plants are edible. Similarly, the stem and flowers of the banana plant are edible. Can you think of more such plants?

Seeds We eat seeds of some plants as cereals or pulses. Small, hard seeds of rice, wheat, maize, and barley (Fig. 1.5 (a)) are called **cereals.** Cereals such as wheat and maize are ground to make flour, which is then used to make different food items. Cereals such as oats are typically eaten with milk as a breakfast meal.

Can you identify the food items that are technically called the stem based on their function of storing food, but grow underground as root?

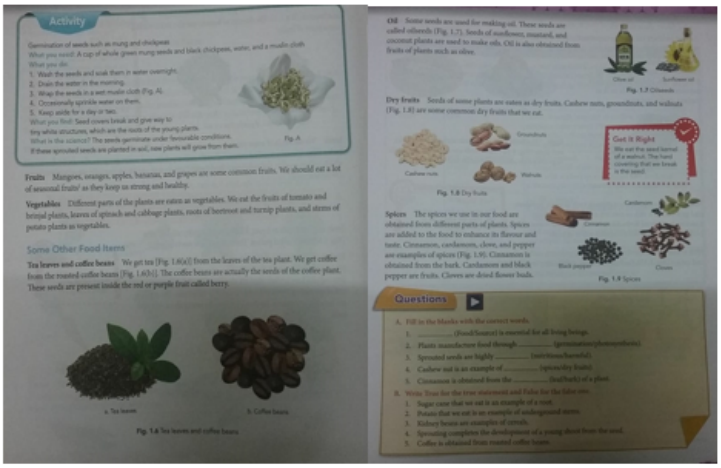
Seeds of plants such as beans, kidney beans, chickpeas, and peas (Fig. 1.5(b)) are called **pulses.** These plants bear seeds in pods.

Seeds such as mung or chickpeas are also eaten as sprouts. The process of soaking seeds for some time, after which they are drained and kept undisturbed till shoots emerge from them is called **sprouting.** Sprouted seeds are highly nutritious. The process of sprouting completes the development of a young shoot from the seed.

Get it Right

Cereals and pulses taken together are called food grains.

Fig. 1.5 Seeds of plants that we eat as cereals and pulses


Activity

Germination of seeds such as mung and chickpeas

What you need: A cup of whole green mung seeds and black chickpeas, water, and a muslin cloth

What you do:

1. Wash the seeds and soak them in water overnight.
2. Drain the water in the morning.
3. Wrap the seeds in a wet muslin cloth (Fig. A).
4. Occasionally sprinkle water on them.
5. Keep aside for a day or two.

What you find: Seed covers break and give way to tiny white structures, which are the roots of the young plants.

What is the science? The seeds germinate under favourable conditions.

If these sprouted seeds are planted in soil, new plants will grow from them.

Fig. A

Fruits Mangoes, oranges, apples, bananas, and grapes are some common fruits. We should eat a lot of seasonal fruits' as they keep us strong and healthy.

Vegetables Different parts of the plants are eaten as vegetables. We eat the fruits of tomato and brinjal plants, leaves of spinach and cabbage plants, roots of beetroot and turnip plants, and stems of potato plants as vegetables.

Some Other Food Items

Tea leaves and coffee beans We get tea (Fig. 1.6(a)) from the leaves of the tea plant. We get coffee from the roasted coffee beans (Fig. 1.6(b)). The coffee beans are actually the seeds of the coffee plant. These seeds are present inside the red or purple fruit called berry.

Fig. 1.6 Tea leaves and coffee beans

Oil Some seeds are used for making oil. These seeds are called oilseeds (Fig. 1.7). Seeds of sunflower, mustard, and coconut plants are used to make oils. Oil is also obtained from fruits of plants such as olive.

Fig. 1.7 Oilseeds

Dry fruits Seeds of some plants are eaten as dry fruits. Cashew nuts, groundnuts, and walnuts (Fig. 1.8) are some common dry fruits that we eat.

Fig. 1.8 Dry fruits

Get it Right

We eat the seed kernel of a walnut. The hard covering that we break is the seed.

Spices The spices we use in our food are obtained from different parts of plants. Spices are added to the food to enhance its flavour and taste. Cinnamon, cardamom, clove, and pepper are examples of spices (Fig. 1.9). Cinnamon is obtained from the bark. Cardamom and black pepper are fruits. Cloves are dried flower buds.

Fig. 1.9 Spices

Questions

A. Fill in the blanks with the correct words.

1. ..... (Food/Source) is essential for all living beings.
2. Plants manufacture food through ..... (germination/photosynthesis).
3. Sprouted seeds are highly ..... (nutritious/harmful).
4. Cashew nut is an example of ..... (spice/dry fruit).
5. Cinnamon is obtained from the ..... (bud/bark) of a plant.

B. Write True for the true statements and False for the false one.

1. Sugar cane that we eat is an example of a root.
2. Potato that we eat is an example of underground stems.
3. Kidney beans are examples of cereals.
4. Sprouting completes the development of a young shoot from the seed.
5. Coffee is obtained from roasted coffee beans.

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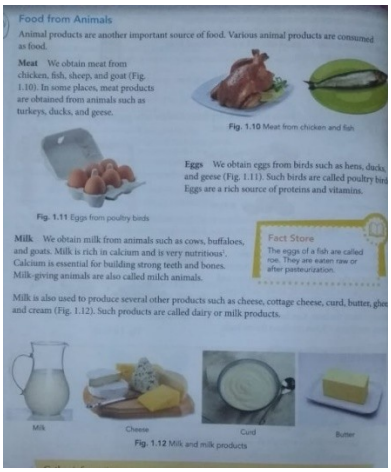

Food from Animals

Animal products are another important source of food. Various animal products are consumed as food.

Meat We obtain meat from chicken, fish, sheep, and goat (Fig. 1.10). In some places, meat products are obtained from animals such as turkeys, ducks, and geese.

Fig. 1.10 Meat from chicken and fish

Fig. 1.11 Eggs from poultry birds

Eggs We obtain eggs from birds such as hens, ducks and geese (Fig. 1.11). Such birds are called poultry bir... Eggs are a rich source of proteins and vitamins.

Fact Store

The eggs of a fish are called roe. They are eaten raw or after pasteurization.

Milk We obtain milk from animals such as cows, buffaloes, and goats. Milk is rich in calcium and is very nutritious'. Calcium is essential for building strong teeth and bones. Milk-giving animals are also called milch animals.

Milk is also used to produce several other products such as cheese, cottage cheese, curd, butter, ghee and cream (Fig. 1.12). Such products are called dairy or milk products.

Milk Cheese Curd Butter

Fig. 1.12 Milk and milk products

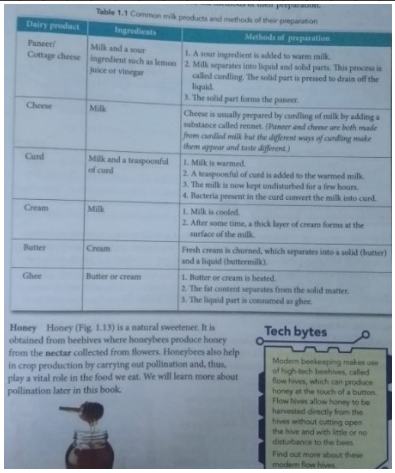

Table 1.1 Common milk products and methods of their preparation

Dairy product	Ingredients	Methods of preparation
Paneer/ Cottage cheese	Milk and a sour ingredient such as lemon juice or vinegar	1. A sour ingredient is added to warm milk. 2. Milk separates into liquid and solid parts. This process is called curdling. The solid part is pressed to drain off the liquid. 3. The solid part forms the paneer.
Cheese	Milk	Cheese is usually prepared by curdling of milk by adding a substance called rennet. *(Paneer and cheese are both made from curdled milk but the different ways of curdling make them appear and taste different.)*
Curd	Milk and a teaspoonful of curd	1. Milk is warmed. 2. A teaspoonful of curd is added to the warmed milk. 3. The milk is now kept undisturbed for a few hours. 4. Bacteria present in the curd convert the milk into curd.
Cream	Milk	1. Milk is cooled. 2. After some time, a thick layer of cream forms at the surface of the milk.
Butter	Cream	Fresh cream is churned, which separates into a solid (butter) and a liquid (buttermilk).
Ghee	Butter or cream	1. Butter or cream is heated. 2. The fat content separates from the solid matter. 3. The liquid part is consumed as ghee.

Honey Honey (Fig. 1.13) is a natural sweetener. It is obtained from beehives where honeybees produce honey from the **nectar** collected from flowers. Honeybees also help in crop production by carrying out pollination and, thus, play a vital role in the food we eat. We will learn more about pollination later in this book.

Tech bytes

Modern beekeeping makes use of high-tech beehives, called flow hives, which can produce honey at the touch of a button. Flow hives allow honey to be harvested directly from the hives without cutting open the hive and with little or no disturbance to the bees. Find out more about these modern flow hives.

Please follow the link –https://www.youtube.com/watch?v=HT43neQR_A8

……..... End of the module…….

CONTENT- DAY-2

CH: 1- FOOD: WHERE DOES IT COME FROM

Students will complete the textbook exercise.

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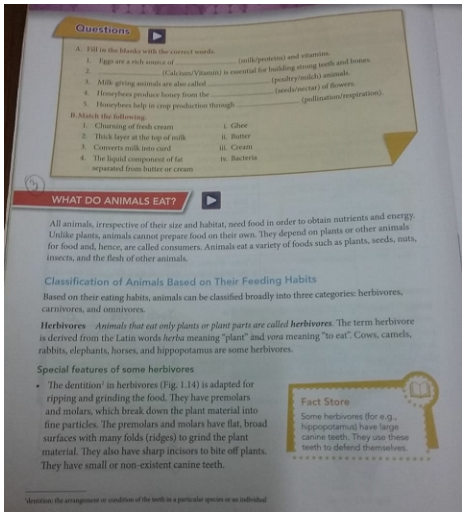


Questions

A. Fill in the blanks with the correct words.

1. Eggs are a rich source of _____ (milk/proteins) and vitamins.
2. _____ (Calcium/Vitamin) is essential for building strong teeth and bones.
3. Milk-giving animals are also called _____ (poultry/milch) animals.
4. Honeybees produce honey from the _____ (seeds/nectar) of flowers.
5. Honeybees help in crop production through _____ (pollination/respiration).

B. Match the following.

1. Churning of fresh cream	i. Ghee
2. Thick layer at the top of milk	ii. Butter
3. Converts milk into curd	iii. Cream
4. The liquid component of fat separated from butter or cream	iv. Bacteria

WHAT DO ANIMALS EAT?

All animals, irrespective of their size and habitat, need food in order to obtain nutrients and energy. Unlike plants, animals cannot prepare food on their own. They depend on plants or other animals for food and, hence, are called consumers. Animals eat a variety of foods such as plants, seeds, nuts, insects, and the flesh of other animals.

Classification of Animals Based on Their Feeding Habits

Based on their eating habits, animals can be classified broadly into three categories: herbivores, carnivores, and omnivores.

Herbivores *Animals that eat only plants or plant parts are called* ***herbivores***. The term herbivore is derived from the Latin words *herba* meaning "plant" and *vora* meaning "to eat". Cows, camels, rabbits, elephants, horses, and hippopotamus are some herbivores.

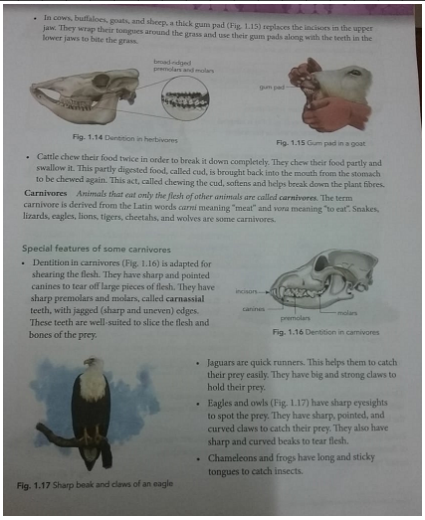
Special features of some herbivores

- The dentition[1] in herbivores (Fig. 1.14) is adapted for ripping and grinding the food. They have premolars and molars, which break down the plant material into fine particles. The premolars and molars have flat, broad surfaces with many folds (ridges) to grind the plant material. They also have sharp incisors to bite off plants. They have small or non-existent canine teeth.

Fact Store

Some herbivores (for e.g., hippopotamus) have large canine teeth. They use these teeth to defend themselves.

[1]dentition: the arrangement or condition of the teeth in a particular species or an individual



- In cows, buffaloes, goats, and sheep, a thick gum pad (Fig. 1.15) replaces the incisors in the upper jaw. They wrap their tongues around the grass and use their gum pads along with the teeth in the lower jaws to bite the grass.

broad-ridged premolars and molars

Fig. 1.14 Dentition in herbivores

gum pad

Fig. 1.15 Gum pad in a goat

- Cattle chew their food twice in order to break it down completely. They chew their food partly and swallow it. This partly digested food, called cud, is brought back into the mouth from the stomach to be chewed again. This act, called chewing the cud, softens and helps break down the plant fibres.

Carnivores *Animals that eat only the flesh of other animals are called* ***carnivores***. The term carnivore is derived from the Latin words *carni* meaning "meat" and *vora* meaning "to eat". Snakes, lizards, eagles, lions, tigers, cheetahs, and wolves are some carnivores.

Special features of some carnivores

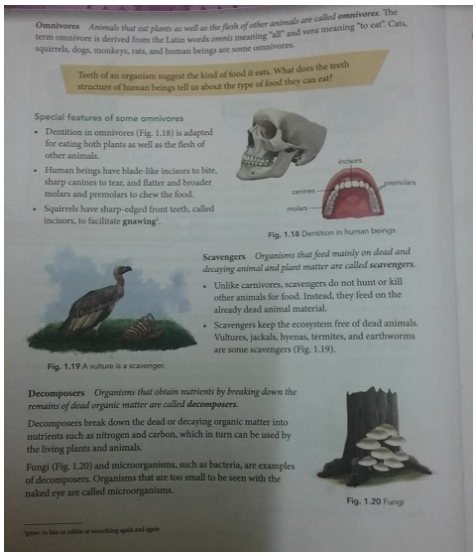
- Dentition in carnivores (Fig. 1.16) is adapted for shearing the flesh. They have sharp and pointed canines to tear off large pieces of flesh. They have sharp premolars and molars, called **carnassial** teeth, with jagged (sharp and uneven) edges. These teeth are well-suited to slice the flesh and bones of the prey.

incisors canines premolars molars

Fig. 1.16 Dentition in carnivores

- Jaguars are quick runners. This helps them to catch their prey easily. They have big and strong claws to hold their prey.
- Eagles and owls (Fig. 1.17) have sharp eyesights to spot the prey. They have sharp, pointed, and curved claws to catch their prey. They also have sharp and curved beaks to tear flesh.
- Chameleons and frogs have long and sticky tongues to catch insects.

Fig. 1.17 Sharp beak and claws of an eagle



Omnivores *Animals that eat plants as well as the flesh of other animals are called* ***omnivores***. The term omnivore is derived from the Latin words *omnis* meaning "all" and *vora* meaning "to eat". Cats, squirrels, dogs, monkeys, rats, and human beings are some omnivores.

Teeth of an organism suggest the kind of food it eats. What does the teeth structure of human beings tell us about the type of food they can eat?

Special features of some omnivores

- Dentition in omnivores (Fig. 1.18) is adapted for eating both plants as well as the flesh of other animals.
- Human beings have blade-like incisors to bite, sharp canines to tear, and flatter and broader molars and premolars to chew the food.
- Squirrels have sharp-edged front teeth, called incisors, to facilitate **gnawing**[1].

incisors canines premolars molars

Fig. 1.18 Dentition in human beings

Scavengers *Organisms that feed mainly on dead and decaying animal and plant matter are called* ***scavengers***.

- Unlike carnivores, scavengers do not hunt or kill other animals for food. Instead, they feed on the already dead animal material.
- Scavengers keep the ecosystem free of dead animals. Vultures, jackals, hyenas, termites, and earthworms are some scavengers (Fig. 1.19).

Fig. 1.19 A vulture is a scavenger.

Decomposers *Organisms that obtain nutrients by breaking down the remains of dead organic matter are called* ***decomposers***.

Decomposers break down the dead or decaying organic matter into nutrients such as nitrogen and carbon, which in turn can be used by the living plants and animals.

Fungi (Fig. 1.20) and microorganisms, such as bacteria, are examples of decomposers. Organisms that are too small to be seen with the naked eye are called microorganisms.

Fig. 1.20 Fungi

[1]gnaw: to bite or nibble at something again and again

Please follow the link –https://www.youtube.com/watch?v=HT43neQR_A8

https://www.youtube.com/watch?v=YWwoQInSEeI

…….. End of the module……