

Topic: Science Around you

Lesson No: 01

Class: 6th

Exercises

Subject: Science.

Short Answer Questions

Q1. What is Science?

Ans: Science is a system of acquiring knowledge by the scientific method.

Q2. What is a hypothesis?

Ans. Scientists try to think of a possible solution to the problem. This is called a hypothesis. It is a logical guess based on known facts.

Q3. When does a hypothesis become a theory?

Ans: When a hypothesis is verified experimentally it becomes a theory or a law.

Q4. How can a hypothesis be verified?

Ans: Scientists carries out experiments to test if the hypothesis is correct. If the hypothesis is found to be incorrect, then a new hypothesis is made and tested.

Q5. Which indian scientists became the president of india in 2002?

Ans: A.P.J. Abdul kalam became the president of india in 2002.

Long Answer Questions:

Q. Give the names of any three Indian Scientists and three Scientists from other countries. State briefly what each one is famous for.

Ans: The three Indian Scientists are:

1. Jagdish chandra Bose; was born in 1858. He studied radio waves and sensitivity in plants.

2. H. G. Khorana; won the Noble prize for medicine for his work on genes.

3. APJ Abdul kalam; made immense contributions to the development of missiles such as Agni and Prithvi in India.

Other countries Scientists:

1. James Joule; an English Physicist, showed that heat is a form of energy.

2. J. J Thomson; an English Physicist, discovered the electron.

3. Edward Jenner; an English Physician, was the first to carry out vaccination.

Q. Explain how science has helped us in the following areas:

i) Health: Development in biological science have made it possible for us to live a longer and healthier life. we now have.

1. better methods of diagnosing diseases, such as blood tests, urine tests, X-ray radiographs, ultra sound scans, CAT Scans, MRI and so on.
2. medicines for the prevention of diseases and antibiotics for curing diseases.
3. new methods such as the use of radiation to cure cancer, and the use of laser for bloodless surgery.

ii) Communication: Computers and satellites have brought about a revolution in communication. The internet, email and mobile, telephones are recent inventions that have made communication and access to information faster and better. It is now easier to contact people who live far away from us in a matter of minutes.

iii) recreation: Today, we have a wide range of recreational facilities to choose from. movies, documentaries and TV have better quality pictures and sound. music systems using CD's and DVD's give crystal-clear sound. video games are available that both children and adults can enjoy playing at any time.

Q4. In what ways has science harmed us? ⁽⁶⁴⁾

Ans: The following are some ways by which Science has harmed us:

1. waste from mainly vehicles and factories leads to Pollution of air, water and land. This pollution is a threat to our health and life.
2. Poisonous gases and harmful radiations from factories have killed and harmed thousands of people.
3. Some polluting gases released into the air cause depletion of the ozone layer in the upper atmosphere. This exposes us to the harmful rays in sunlight.
4. Bombs, such as the atomic and hydrogen bombs, threaten the entire human population today. Many weapons that can kill thousands of people in an instant have been invented.

A: Multiple choice questions:

1. a) 2. b) 3. b) 4. c) 5. d) 6. a)

B: Fill in the blanks:

1. Scientific 2. Experiments 3. Physical 4. Biological

C: True or False

1. F 2. 3. F 4. F 5. F.

Topic : Sources of Food

Lesson No: 02

Exercises

Short Answer questions

Q1. What are the uses of food?

Ans: The main uses of food are given below:

1. It gives us energy.
2. It has the materials needed for growth.
3. It enables the body to repair and replace worn out tissues.
4. It keeps the body healthy and helps it to fight against diseases.

Q2. Name three fruit vegetables?

Ans: The three fruit vegetables are:

1. Pumpkin 2. Tomato 3. brinjal

Q3. What do omnivores eat?

Ans omnivores eat both plants ~~and~~ and animals.

Q4. How do Scavengers help the environment?

Ans. Scavengers help the environment by consuming dead carcasses and thereby keep the surrounding clean.

Q5.

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Q5. What is a food chain? Explain with an example?

Ans. The relationship between organisms for transferring nutrients is called a food chain.

Example of a food chain is given below:

Grass → Grasshopper → Frog → Snake → Owl.

Long answer question:

Q1. Write a short note on the foods that we get from plants and animals with suitable examples.

Ans. Food that we get from plants are:

1. Cereals and Pulses:

Cereals are seeds, mostly obtained from grasses, Barley, wheat, maize, millet, oats, rice, rye and sorghum are examples of cereals.

Pulses are seeds from leguminous plants, where the seeds are found in pods. Greengrams, black gram, chickpea, kidney beans and lentils are examples of pulses.

2. Fruits and vegetables:

Orange, apple, banana, peach, plum, melon and pineapple are some examples of fruits that we eat.

Vegetables too form an important part of our diet. They include:

- Root vegetables such as carrot, cassava, radish

and turnip.

- Leaf vegetables such as potatoes, ginger, bamboo shoots and asparagus.
- Fruit vegetables such as pumpkin, okra, tomato and brinjal.

3. Other foods:

Other foods from plants include the following

- Nuts: such as groundnut and cashew nut.
- Spices: such as clove and cinnamon
- Herbs: such as coriander, mint, celery and parsley
- Beverages: such as coffee, cocoa and tea.

Food from animals:

We get many food items from animals

1. Meat refers to the muscles and other parts of an animal's body that we eat. We get meat from fish, poultry, goats, cattle and sheep.
2. We get eggs from hens, ducks and other birds.
3. We get milk from cows, goats, camels and other such animals. Some milk products (dairy products) are butter, buttermilk, cheese, cream and yoghurt (curd).
4. Honey is made by bees.

Q2: Name the three groups into which animals⁽⁶⁸⁾ are classified depending on the type of food they eat. mention the food they eat and the adaptations they have for eating.

Ans: Animals can be herbivores, carnivores or omnivores depending on what they eat.

1. Herbivores: Animals like the deer, horse, elephant and giraffe that eat only plants are known as herbivores.

Herbivorous animals like cows and buffaloes have flat and blunt molars at the back of their mouths that they use to chew and grind the grass they eat.

2. Carnivores: Animals like the lion, wolf, eagle and snake that eat other animals are known as carnivores.

- carnivores animals like lions and leopards have long sharp canines to tear meat.

- Frogs and lizards have a long sticky tongue which they use to catch their prey.

3. Omnivores: Animals like the crow, cockroach, bear and humans that eat both plants and animals are known as omnivores.

- Humans are omnivores with different types of teeth that allow us to eat both plants and animals.

- omnivorous bird like crows have strong beaks that they use to tear flesh.

A. Multiple choice Questions

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1. d) 2. b) 3. a) 4. b) 5. c) 6. b)
7. a) 8. d) 9. a) 10. a)

B. Fill in the blanks.

1. tissue 2. seeds 3. nectar
4. diet 5. food chain

C. Say whether the statements are true or false.

- 1) T 2) F 3) F 4) T 5) T 6) F 7) T 8) F

Draw and practice following diagram.

1. Simple food chain [fig 2.6 Pg no. 16]
 2. Fruits and vegetables [fig 2.2 Pg no. 12]
 3. Foods rich in carbohydrates [fig 3.2 Pg no. 21]
 4. Foods rich in fats [fig 3.3 Pg no. 22]
 5. Foods rich in protein [fig 3.4 Pg no. 23]
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Topic: Components of Food

Lesson No: 03

Short Answer Questions:

Q1. What are the main food groups?

Ans: There are three main food groups are:

1. energy-giving foods
2. body-building foods
3. protective foods

Q2. Name the two kinds of carbohydrates that we get energy from.

Ans: Sugar and Starch are two kinds of carbohydrates that we get energy from.

Q3. Why is fat very important in our diet?

Ans: Fat is very important in our diet because they are stored under the skin and keep us warm.

Q4. What is roughage?

Ans carbohydrates present in plant foods that cannot be digested and which move food through the digestive system is known as roughage.

Q5. What is a balanced diet?

Ans: A balanced diet should contain all the important nutrients in the right amounts, and should also contain enough water and roughage.

Q6. What happens when there is shortage of proteins in a child's diet?

Ans. Marasmus and Kwashiorkor deficiency diseases occur when there is shortage of proteins in a child's diet.

Q7. Which nutrients are needed in small quantities in our diet?

Ans. Vitamins and minerals are needed in small quantities in our diet.

Q8. If a child has rickets, which part of the body is affected?

Ans. If a child has rickets, legs are affected.

Q9. What are minerals? How are they useful to us?

Ans. Minerals are substances that we get from the earth. Minerals are absorbed by plants, which are then eaten by animals. Each mineral has a specific function to perform in the body.

Q10. What are the functions of iodine in our body?

Ans. The functions of iodine in our body are:

- i) making the growth hormone
 - ii) development of the baby during pregnancy.
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Long Answer Questions:

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Q2. Why is water very important in our diet?

Ans. Water plays a vital role in the body's system.

1. Many substances that our body needs are soluble in water. For example, vitamin C is soluble in water. Water is essential for the proper functioning of the body.
2. Water is the main component of blood, which transports substances such as food, wastes, chemicals and gases through the body.
3. It is used to excrete waste through urine and sweat.
4. It keeps our body cool. When sweat evaporates, the body is cooled.

Q3. Discuss the importance of roughage in our daily diet.

Ans. The importance of roughage in our daily diet are:

1. Roughage adds bulk to our food. Since it is not digested, it passes down the entire digestive tract from the mouth to the anus.
2. It prevents constipation and ensures proper bowel movement.
3. Many doctors believe that a high-fibre diet reduces the risk of heart diseases and bowel cancer.

Q4. Name five important vitamins and five important minerals. Give one function of each. (13)

<u>Ans: Vitamin</u>	<u>Importance in the body</u>
1. A	It helps for normal growth, keeps the eyes and skin healthy.
2. C	It helps in healing of wounds and needed for healthy bones, and strong blood vessels.
3. K	It helps in the clotting of blood.
4. D	It helps to use calcium for formation of strong bones and teeth.
5. B ₁₂	It helps in the formation of red blood cells.

<u>Minerals</u>	<u>Importance in the body</u>
1. Calcium	Formation of bones and teeth, blood clotting.
2. Iron	For the formation of haemoglobin.
3. Fluorine	It helps in formation of bone and tooth.
4. Sodium	It helps functioning of the nerves and kidney.
5. Iodine	It helps in making the growth hormone and development of baby.

Q5. How does malnutrition cause diseases? ⁽¹⁴⁾

Ans malnutrition can be caused due to less nutrients available or the body's inability to use the nutrients available. Deficiency of proteins in the diet leads to severe malnutrition especially in children.

1. Marasmus:- A diet deficient in energy as well as proteins causes a deficiency disease called marasmus. A child suffering from this disease becomes so thin that loose folds of skin can be seen all over the body. Growth is stunted and body tissues slowly waste away.

2. Kwashiorkor:- A diet deficient in proteins affects young children and results in a disease called kwashiorkor.

The symptoms of kwashiorkor are:

- i) The stomach and feet become swollen with water.
- ii) The muscles waste away.
- iii) The skin gets discoloured.
- iv) The hair becomes reddish and frizzy.
- v) Physical and mental growth of the child is slowed down.

Q6. What are deficiency diseases? List any five vitamins and their deficiency diseases?

Ans: People who do not get the right amounts of all nutrients from their food suffer from deficiency diseases.

Let us study in detail about some deficiency diseases caused by the lack of vitamins in the diet.

1. Scurvy: is a disease caused due to the lack of vitamin C. The main symptoms of scurvy are swelling and bleeding of gums and wounds not healing properly.

2. Rickets: is a disease of the bones. It is caused by the lack of vitamin D and the mineral calcium.

3. Anaemia: is caused by the deficiency of iron in the diet. It is caused by the lack of vitamin B₁₂. In this disease there is a reduced formation of RBC in the body.

4. Beri-beri: is a disease caused due to the lack of vitamin B₁. In this disease, nervous system are affected.

5. Night-blindness: is a disease caused due to the lack of vitamin A. The main symptoms of this disease are inability to see in dim light, and irregular growth of teeth.

Q. Describe what will happen if a person follows a fat-free diet for a few weeks? (16)

Ans: If a person follows a fat-free diet for a few weeks, He will feel lack of energy as fats are important for two main reasons:-

1. Fats are stored mainly under the skin. we use fats to get energy when carbohydrates are not available. Thus, fats work as the body's energy bank.
2. The fat under the skin acts as an insulator reducing heat loss in cold weather. It thus helps to keep the body warm.

a. Multiple choice Questions:

1. d) 2. b) 3. c) 4. a) 5. b) 6. b) 7. a) 8. b)
9. a) 10. d).

b. Fill in the blanks.

1. carbohydrate 2. Insulator 3. enzymes.
4. vitamin K 5. Iron.

c. True or False.

1. T 2. F 3. F 4. T 5. T

d. Column A

1. Vitamin C
2. Vitamin B₁
3. Iron
4. Iodine
5. calcium

Column B

- a. Goitre (4)
- b. Anaemia (3)
- c. Beri-Beri (2)
- d. Osteoporosis (5)
- e. Scurvy (1)