

Lesson Plan 1
Class – VI
Subject: Science
Topic: Components of food

KPI DEFINITION ADDRESSED TO THE LESSON PLAN

KPI 1- To strengthen in- depth understanding of some complex scientific concepts

KPI 3- Application of scientific concepts in doing experiments

KPI 2- Promoting analytical thinking in order to establish connectivity with the real world situation and compare the different physical quantities.

TOPIC- Components of food

START DATE- 05 july 2023

KNOWLEDG E	UNDERSTANDIN G	APPLICATIO N	ANALYSI S	SYNTYHSI S	EVALUATIO N
S 3,	S 1, 2, 4,	S 6	S-5		
		B 1, 3,4	B 2,		
Act 1	Act 1, 2 ,5	Act 3	Act -4		
Assessment				As 1, 2	As- 3

Brief Description of the lesson: This topic emphasizes on the different components of food such as carbohydrates, fats, proteins, vitamins, minerals. It also tells that nutrient in some common food items, testing of nutrients and deficiency diseases. By this the learner will be able to apply the concept to the applications of balanced diet in our daily life.

UN Sustainable Goals to be achieved (if any): Good Health and Well-being.

Objectives:

I - Specific Objectives

To enable the students to-

- 1) Identify the deficiency diseases due to the lack of vitamins. (Comparing-U) **KPI 2**
- 2) Differentiate between herbivores, carnivores and omnivores. (Comparing-U) **KPI 1**
- 3) Understand the daily balanced diet for a 12-year-old child. (Explaining- U) **KPI 1**
- 4) Comprehend about the nutrients present in some common food items. (Explaining-U) **KPI 1**
- 5) Explain the testing of nutrients in given food material. (Explaining-U) **KPI 2**
- 6) Know some important minerals and their sources. (Recalling-K) **KPI 2**
- 7) Exemplify the daily life applications of energy giving food, body building food, protective food. . (Exemplifying-U) **KPI 3**

II - Behavioral Objectives

To enable the students to-

- 1) Make their own balanced diet chart. (Executing-Ap) **KPI 3**
- 2) Identify the symptoms of deficiency diseases. (Executing-Ap) **KPI 2**
- 3) Include salad and sprouts in diet to get fibre. (Implementing-Ap) **KPI 3**
- 4) Select suitable food items according to their need. (Differentiating- An) **KPI 3**

Process / Activities

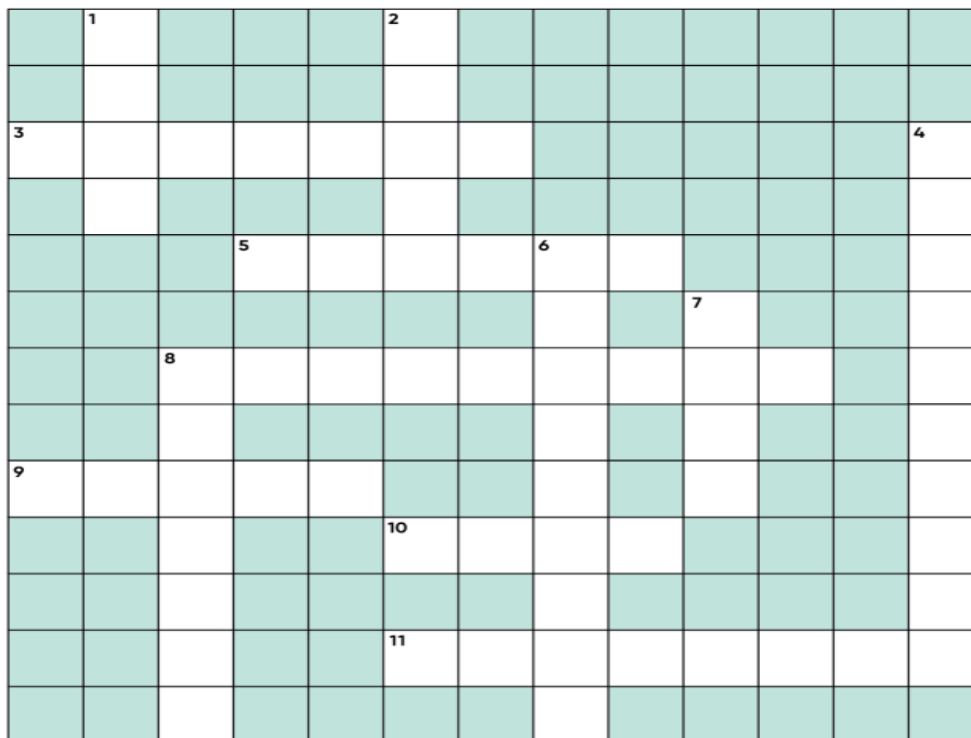
Activity 1 (to introduce the lesson)

Warm up activity

Name _____

Date _____

NUTRITION CROSSWORD PUZZLE



Across

- 3** A white metallic element found in milk and bone
- 5** Taking food into the body
- 8** The process of being nourished
- 9** About 453.6 grams
- 10** A person's habit of eating
- 11** Compounds necessary to good health, found in plants and animals

Down

- 1** About 1/28th of an ounce in the metric system
- 2** Ripened part of a flowering plant that contains seeds
- 4** Plant roots, leaves, stems, and flowers eaten as food
- 6** Healthy ingredients in foods
- 7** Something eaten to maintain life
- 8** To provide a person with food

Activity 2- To sprout some seeds

Take some seeds of moong . soak them overnight in water. Drain out the water the next day and wrap the seeds in a wet cloth. Observe the seeds after one day.



Moong



Chana

Probing questions:

1. Do all types of seeds form sprouts?
2. Name the conditions required for sprouting.

The concept of healthy food will be introduced.

Testing of nutrients

Activity 2- To understand the test of starch, proteins and fat. (Inferring-U) **KPI 1 and 2**

The activity will be including the following steps-

Experiment Test for Starch

There are many types of carbohydrates. The main carbohydrates found in our food are in the form of starch and sugars. We can easily test if a food item contains starch.

1. Take small quantity of the food items to be tested.
2. Put 2-3 drops of iodine solution on it.
3. Observe the colour of the food item.
4. Blue-black colour indicates the presence of starch in the tested food item.

Test for Protein

Proteins are needed for the growth and repair of our body. Foods containing proteins are often called 'Body Building Foods'. Test if a food item contains protein.



1. Take a small quantity of the food items to be tested.
2. Grind/mash/paste/powder the food item.
3. Put the food item into a test tube.
4. Add 10 drops of water and shake the test tube.
5. Using a dropper add two drops of copper sulphate solution to the test tube.
6. Add 10 drops of caustic soda solution and shake the test tube.

7. Observe the colour of the mixture.
8. Violet colour indicates the presence of proteins in the tested food item.

Test for Fats

Fat is a major source of energy and also aids your body in absorbing fat-soluble vitamins. You need a minimum of 10 to 20 percent of your overall calories as fat. Test if a food item contains fat.

1. Take a small quantity of the food item to be tested.
2. Wrap the food item in a piece of paper and crush it.
3. Straighten the paper.
4. Dry the paper by keeping it in sunlight for a while.
5. Observe the paper.
6. An oily patch on the paper indicates the presence of fats in the tested food item.

1. How can you test presence of starch in food?
2. Name the nutrients that mainly give energy to our body.

The activity will enable the students to understand the presence of starch, protein and fat in the given food materials.

Activity 3 . Prepare a diet chart to provide balance diet to a twelve-year-old child. The diet chart should include food items which are not expensive and are commonly available in your area. **KPI 2**

Activity 4 . We have learnt that excess intake of fats is harmful for the body. What about other nutrients? Would it be harmful for the body to take too much of proteins or vitamins in the diet? Read about diet related problems to find answers to these questions and have a class discussion on this topic. (Executing- Ap) **KPI 3**

Activity 5: Explanation on deficiency of diseases through following charts: **KPI 1**

Name of the vitamin	Sources	Deficiency diseases	Symptoms
Vitamin A	Carrot, leafy vegetables, eggs, dairy products	Xerophthalmia, Nyctalopia (Night blindness)	Unable to see in dark, dryness in the cornea
Vitamin D	Sunlight, Egg, dairy products	Rickets	Deformed bow bones, protruding chest, defective ribs
Vitamin E	Almonds, milk, meat, whole wheat	Sterility in rats, reproductive abnormalities, dry skin, Premature aging, increased hair fall and in hair growth.	Sterility
Vitamin K	Leafy vegetables, soybean, milk	Blood clotting does not take place.	Excessive bleeding takes place as clotting do not take place at the time.

Digital Content to be used:

Video showing demonstration on components of food <https://youtu.be/cQAWv4L4bgc>

Video showing test for nutrients experiment <https://youtu.be/cQAWv4L4bgc>

Expected Learning Outcomes

Students will be able to

1. Identify the different components of food and understand their importance in maintaining healthy diet. (Recalling-K)
3. Relate his knowledge to his regular eating habits. (Recognizing-K)
4. Understand why food habits differ from one region to another. (Differentiating-An)
5. Identify the components of food to be preferred in quantity and frequency (Checking -K)
4. Recall the importance of fibre and water in our food. (Recalling-K)
5. Acquire the skill of testing the main food component in a given food sample. (App. A)

Assessment Activity:1

1. Students will be asked to prepare a diet chart for a twelve-year child.
2. Students will be asked to prepare a concept map on the components of food.
3. Class test will be conducted after completion of chapter.

Review of the Lesson Plan:

Problems faced – 1 Students face problem in identifying the sources of Carbohydrate, Proteins and fats.

2 Students face problem in some vitamins and minerals and their sources and functions.

3 Few students face problem in understanding the deficiency diseases.

Success- About 70% of students understood the topic better and also have ability to express it properly.

Failure- About 30% of students could not be able to solve a particular set of questions in examinations such as case studies.

Real Learning Outcomes- In the topic ‘Component of Food’ explained and expressed by teacher through various activities but some students faced problems in solving high order thinking questions.

Students Response / Participation- Students could draw the chart of Component of Food and could understand the concept of balanced diet in our daily life. Few students could not focus at the time of demonstration testing of nutrients in the lab.

Teachers Learning to be added- Teacher faces a problem in explaining some topics with demonstration.