

Subject: Biology**Topic:** - Parts of Food**Sub – Topic:** Types of Chemical Substances**Class:** Grade 6**Duration:** 15 Mins**Aim:-**

- To know the main parts of food.

Materials Required:-

1. A slice of potato
2. Grinded raw groundnuts
3. Gram flour
4. NaOH Solution
5. Copper sulphate (CuSO_4) solution
6. Iodine solution
7. Test tube stand
8. Dropper
9. Beaker

Principle:-

Various types of food contain various types of chemical substances. These substances can be detected by chemical tests. Protein can be detected by CuSO_4 & starch by Iodine.

Table

<i>Food Item</i>	<i>Starch Present</i>	<i>Protein Present</i>	<i>Fat Present</i>
Raw potato	Yes	—	—
Milk	—	Yes	Yes
Groundnut	—	Yes	Yes
Uncooked dry rice	Yes	—	—
Cooked rice	Yes	—	—
Dry coconut	—	—	Yes
Uncooked tuar dal (powdered)	—	Yes	—
Cooked dal	—	Yes	—
A slice of any vegetable	—	—	—
A slice of any fruit	—	—	—
Boiled egg white	—	Yes	—

Procedure:-

- **Test for Starch**
 - Take a slice of potato.

- Put few drops of Iodine on the slice of potato.

Observation:-

Brown color of Iodine changes into black - blue color. This shows the presence of starch. This test can also be done with rice or wheat flour.

- **Test for Protein**

- Take gram flour in a test tube.
- Add 2 drops of CuSO_4 solution and 10 drops of NaOH solution to it.
- Stir the test tube well.

Observation:-

CuSO_4 solution in the test tube turns purple in color. This shows the presence of protein. This test can be done with the color of other pulses.

FUNCTIONS OF PROTEINS	SOURCES
• Needed for making new cells • Helps in repairing old and poultry, milk, damaged cells. • Needed for making blood, enzymes and hormones • Helps in healing wounds.	Animal Sources: Meat, egg, fish, curd, cheese, etc. Plant sources: All cereals, pulses, peas, soya bean, nuts especially groundnut, etc.

- **Test for Fat**

- Take some grinded groundnut seeds in a white paper and fold the paper.
- Press it with the help of your fingers.

Observation: - We will notice a translucent stain on the white paper. This shows the presence of fat in the seeds (groundnut). This test can be performed with sunflower seeds.

FUNCTIONS OF FAT	SOURCES
• Give energy, is the concentrated source of energy. • Helps to keep our body warm. • Help in the utilization of fat soluble vitamins like A, D, E, K. • Provides protection to delicate organs like heart, liver and also provides padding on our skeleton and muscles. • Makes the food tasty	Butter, ghee, groundnut oil, coconut oil, Vanaspati, fried foods, chocolates, etc.

Conclusion:-

Different food substances contain different parts. The main parts are Carbohydrates, Protein and Fats. These can be tested by above given method.