We are learning:

- The main nutrients and their chemical compositions.
- How to test for those nutrients.
- Nutrient sources (HW)
- Deficiency symptoms (HW)

**Nutrition**

**What is a balanced diet?**

- Your diet must include five groups of food substances
  - Carbohydrates, fats, proteins, minerals and vitamins
- It must also include water and fibre.
- A **balanced diet** is a diet that provides enough of these substances in the correct proportions to keep you healthy.

**Carbohydrates**

- Carbohydrates give us energy.
- Chemical elements – C, H and O.
- Starch is made from simple sugars.

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Function</th>
<th>Effect of Deficiency</th>
<th>Good sources</th>
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<tbody>
<tr>
<td>Vitamin C</td>
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<td>Vitamin D</td>
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<td>Water</td>
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**Testing for glucose**

1. Pour some glucose solution into a test tube
2. Add a few drops of Benedict’s solution
3. Heat in a water bath

**Testing For Starch**

- Put a few drops of starch solution on a spotting tile.
- Add a few drops of iodine.
**Proteins**

- Proteins are needed for growth and repair.
- Proteins are made from amino acids
- Chemical elements – C, H, O, N (and S)

**Testing for Proteins**

1. Put 2 ml of protein solution in a test tube
2. Add 2 ml of Blures reagent

**Fats**

- Fats are an energy store, protecting vital organs and providing insulation.
- Fats contain C, H and O
- Fats are made from a glycerol molecule and three fatty acids.

**Testing for Fat (the emulsion test)**

- Add a few drops of cooking oil into a test tube
- Add 2 cm³ ethanol and shake
- Add 2 cm³ water and shake again.