

The image shows a presentation slide. The background is a vibrant green with a pattern of faint, overlapping hexagons. On the right side, there is a white rectangular area. At the top of this white area is a solid dark grey rectangle. Below it, the word "Food" is written in a green, sans-serif font. At the bottom of the white area, there is a thick, horizontal green bar.

Food

The Function of Food

- Humans need food for energy to allow us to breathe, walk, and concentrate in school

6 Types of Food

1. Carbohydrates
2. Fats (Lipids)
3. Proteins
4. Vitamins
5. Minerals
6. Water

1. Carbohydrates

- Carbohydrates are divided up into 3 types:

1. Sugars
2. Starch
3. Fibre

Carbohydrates - Sugar

- **Sugar** gives us a fast burst of energy when we eat it
- **Sugar** can be found in fruit, honey, fizzy drinks, and chocolate



Carbohydrates - Starch

- **Starch** gives us a slow release of energy when we eat it
- **Starch** is found in bread, potatoes, rice and pasta

Examples of Carbohydrates



Carbohydrates - Fibre

- **Fibre** prevents us from getting constipated
- **Fibre** can be found in brown bread, bran flakes, brown rice and vegetables



2. Fats (Lipids)

- **Fat** keeps the body warm. It acts like an insulating jacket!
- **Fat** is found in butter, margarine, oil and cream



Saturated v Unsaturated Fat

- Saturated Fat is usually solid at room temperature e.g. butter and lard.
- They contribute to heart disease
- Unsaturated fat is usually liquid at room temperature e.g. olive oil

3. Protein

- **Protein** makes our hair and muscles grow
- **Protein** is found in eggs, meat, milk, cheese and fish



4. Vitamins

- **Vitamin C** keeps our skin and gums healthy
- **Vitamin C** is found in oranges and kiwis

- **Vitamin D** helps keep our bones strong
- **Vitamin D** is found in milk, butter, cheese and eggs.

6. Minerals

- **Iron** makes up part of our blood
- **Iron** is found in red meat and green vegetables

- **Calcium** helps keep our bones strong
- **Calcium** is found in milk, cheese and yoghurts

6. Water

- **Water** allows all the cells in our body to work
- **Water** is found in drinks like orange juice and tea and also in fruit and vegetables

A Balanced Diet

A Balanced Diet is getting the right amounts of each of the 6 different types of food

- If you don't get a balanced diet you can become ill

The Food Pyramid

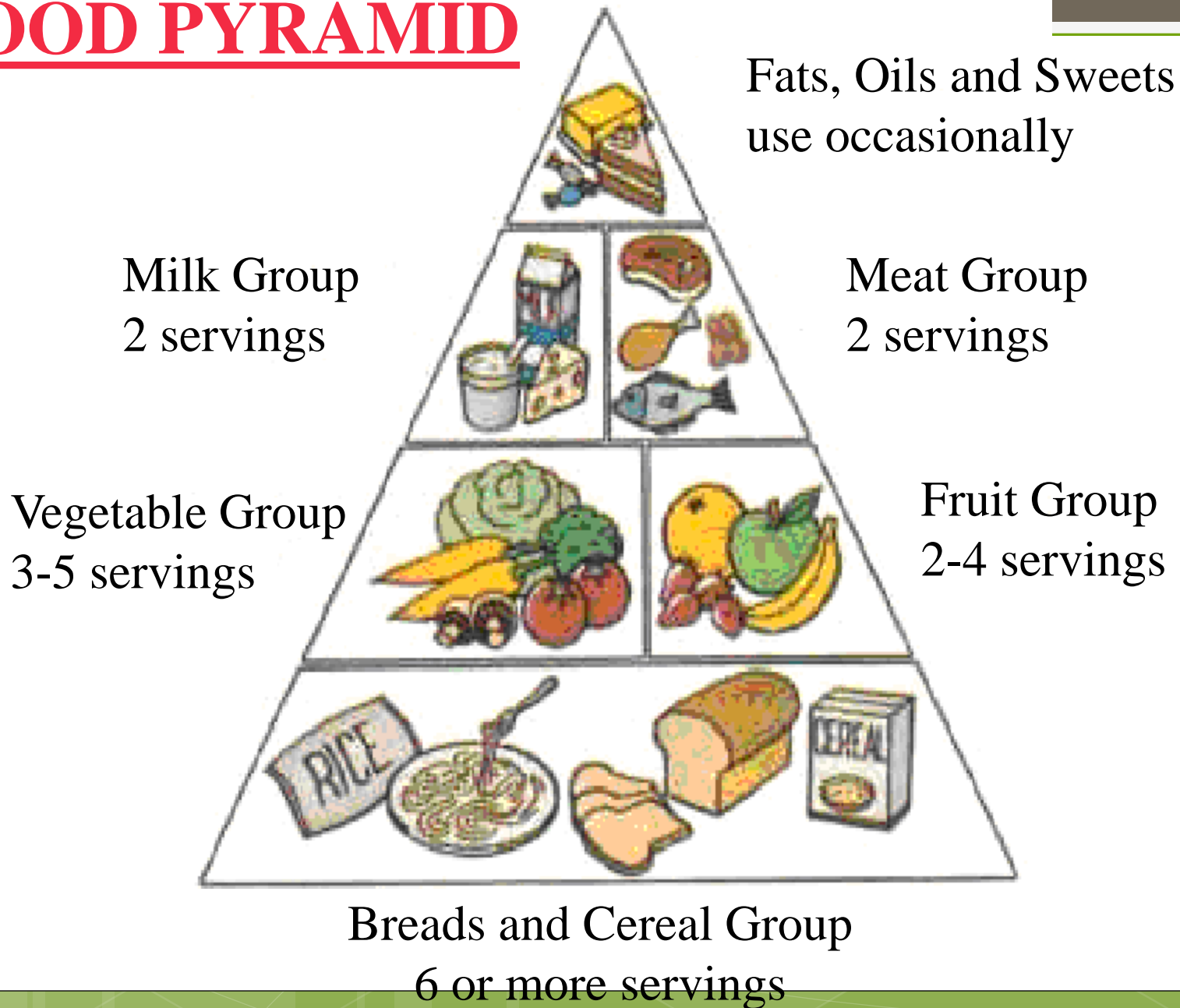
- The food pyramid is a diagram in the shape of a pyramid
- It shows us how many portions of food we should have everyday

The Food Pyramid

- Carbohydrates are on the bottom of the pyramid meaning we must have the highest number of portions of these everyday.
- Fats and sugars are on the top of the pyramid telling us we must have the least number of portions of these a day.



FOOD PYRAMID



Energy

- When we eat food we get energy
- Different types of food gives us different amounts of energy
- For example fat will give us more energy compared to protein and carbohydrates

Energy

- The energy we get from food is measured in kJ (kilojoules)
- An active boy needs 15,000 kJ's a day
- An active girl needs 11,000 kJ's a day

Nutritional Information

Nutritional Information per 100 g

Energy	872 kJ / 206 kcal
Protein	15 g
Carbohydrate	26.8g
(of which sugars)	3.8 g
Fat	2.5g
(of which saturates)	0.5 g
Fibre	36.5 g
Sodium	0.028 g

Ingredients

Sugar, Wheat Flour, Whole Egg, Humectant (Glycerol), Whey Powder, Powdered Egg White, Salt, Raising Agents (Disodium Diphosphate, Sodium Bicarbonate), Flavouring, Preservative (Potassium Sorbate).

Nutrition

Typical Composition	Each trifle sponge (20g) provides	100g (3 ¹ / ₂ oz) provide
Energy	284kJ 67kcal	1418kJ 335kcal
Protein	1.7g	8.3g
Carbohydrate	13.5g	67.7g
of which sugars	9.5g	47.4g
Fat	0.7g	3.4g
of which saturates	0.2g	1.0g
mono-unsaturates	0.3g	1.7g
polyunsaturates	0.1g	0.6g
Fibre	0.2g	1.1g
Sodium	trace	0.2g

This pack contains 8 trifle sponges.

NUTRITION INFORMATION

TYPICAL VALUES	PER 100g	PER 208g SERVING (approx 1/3 can)
Energy	392kJ 93kcal	815kJ 193kcal
Protein	3.2g	6.7g
Carbohydrate	15.7g	32.7g
(of which sugars)	8.2g	17.1g
Fat	1.9g	4.0g
(of which saturates)	1.1g	2.3g
Fibre	Trace g	0.1g
Sodium	0.1g	0.2g
Calcium	100mg (12%RDA)	208mg (25%RDA)

ALLERGY ADVICE: Contains Milk

INGREDIENTS

Wheat, Glucose-Fructose Syrup, Sugar, Honey (3%),
Glucose Syrup, Molasses, Niacin, Iron,
Riboflavin (B2), Thiamin (B1).

NUTRITION INFORMATION

Typical Values	per 100g	per 30g serving	% GDA*
Energy	1608kJ (379 kcal)	482kJ (114 kcal)	- (5.7%)
Protein	5.3g	1.6g	-
Carbohydrate (of which sugars)	85.8g 35.0g	25.7g 10.6g	- 10.6%
Fat (of which saturates)	1.6g 0.2g	0.5g 0.1g	0.7% 0.5%
Fibre	3.7g	1.1g	4.6%
Salt	trace	trace	trace
Sodium	trace	trace	-

*GDA = Guideline Daily Amount (See back of pack)

Vitamins & Mineral

	per 100g	per 30g serving
Thiamin (B1)	1.0mg/71% RDA*	0.3mg/21% RDA*
Riboflavin (B2)	1.0mg/63% RDA*	0.3mg/19% RDA*
Niacin	10.0mg/56% RDA*	3.0mg/17% RDA*
Iron	8.0mg/57% RDA*	2.4mg/17% RDA*

*RDA = Recommended Daily Allowance



Typical Nutritional value
per 100g.

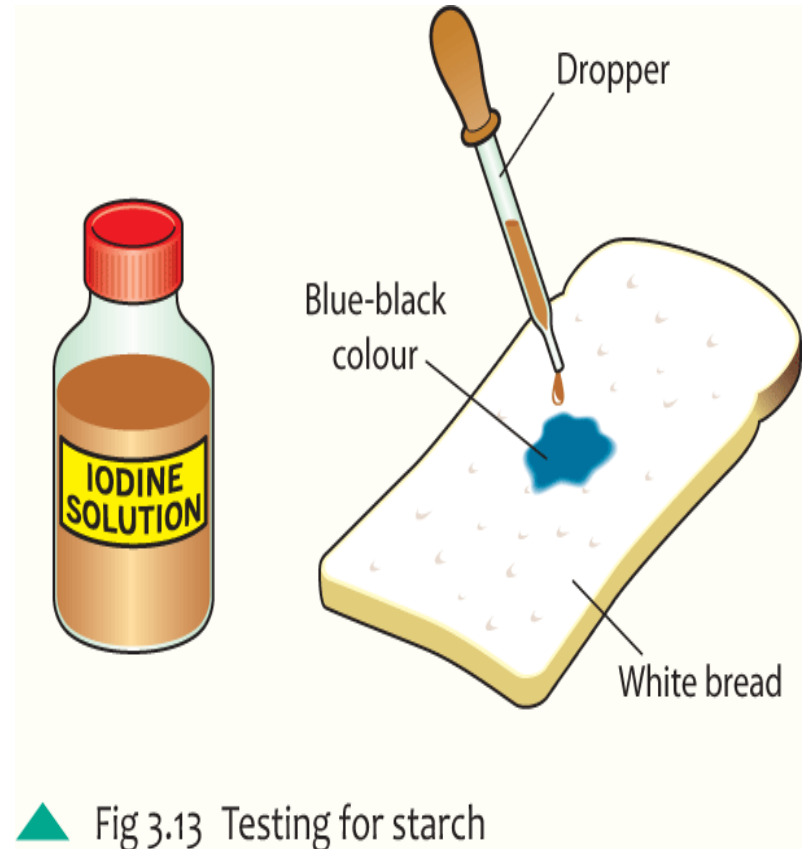
Energy	1166kJ
Carbohydrate	4g
Protein	1.5g
Fat	3g
Fibre	27g
Salt	2.2g

Food Tests

1. To test a food for Starch
2. To test a food for a Reducing Sugar
3. To test a food for Fat
4. To test a food for Protein

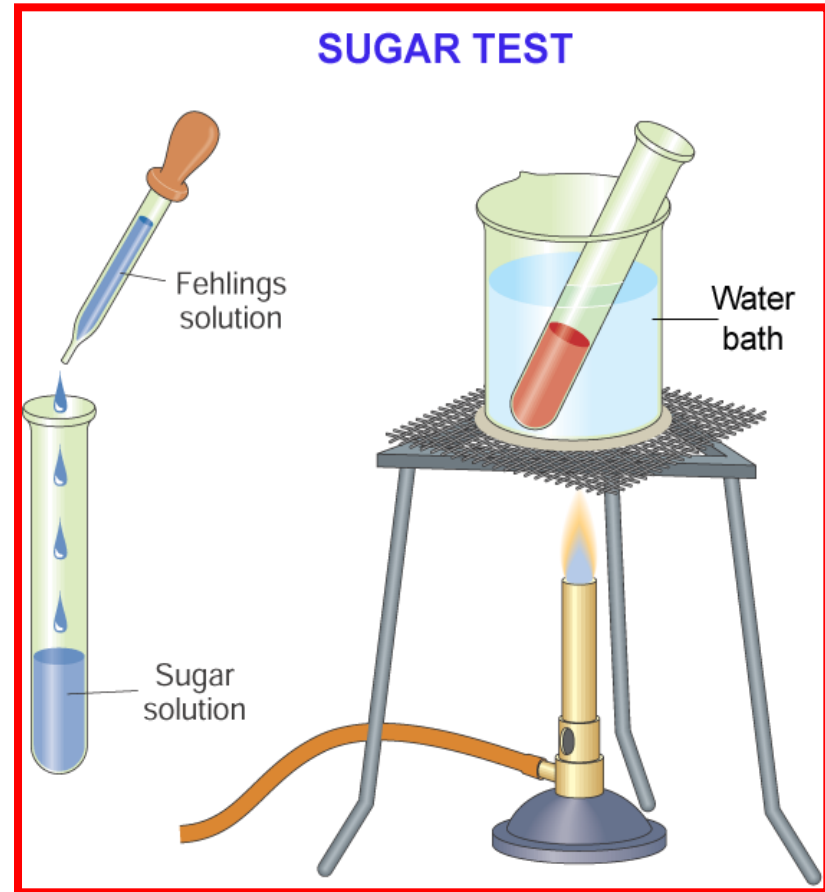
1. To test a food for Starch

- Drop some Iodine (Red/Brown) onto bread
- The Iodine will change to a Blue/Black colour if Starch is present



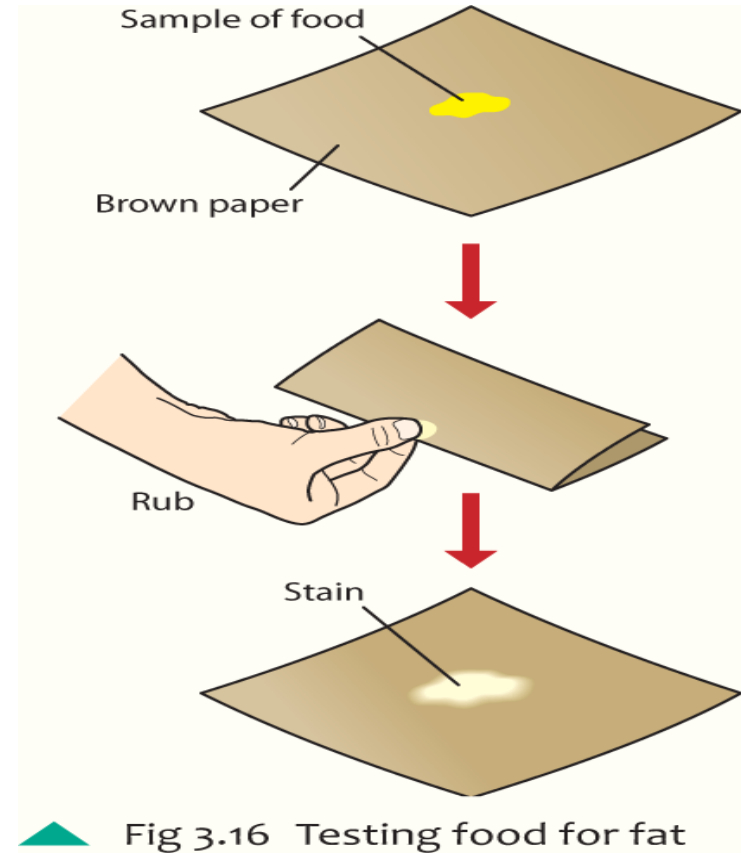
2. To test a food for a Reducing Sugar (Glucose)

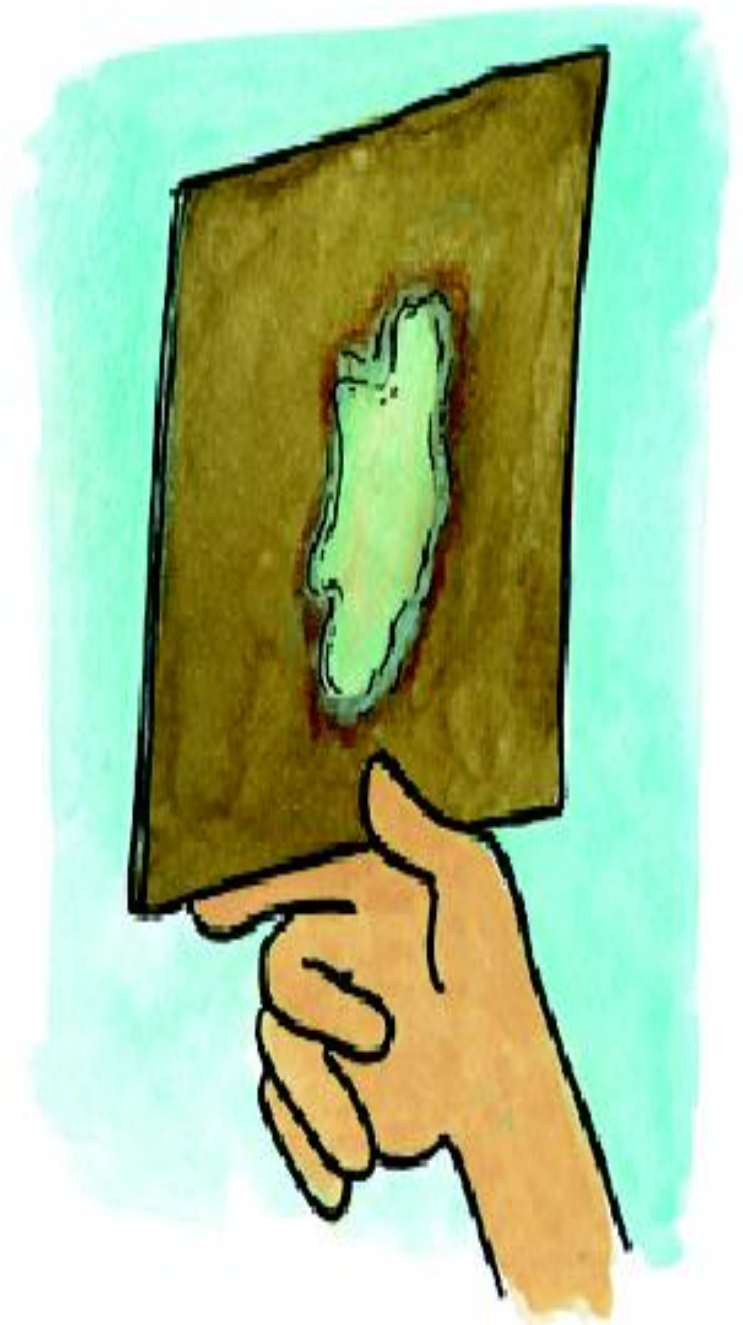
- Add Benedicts or Fehlings Solution (Both Blue) to 7up
- Place in a water bath for 10 minutes
- The 7up will turn a brick red colour if sugar is present



3. To test a food for Fat

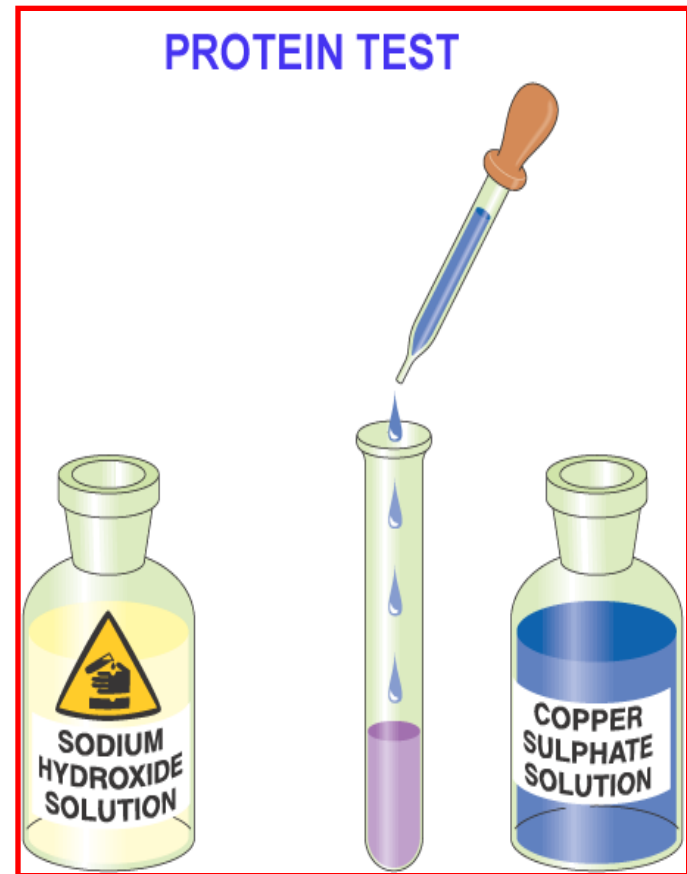
- Rub some oil onto brown paper
- Leave for 10 minutes
- Fat will leave a translucent permanent stain



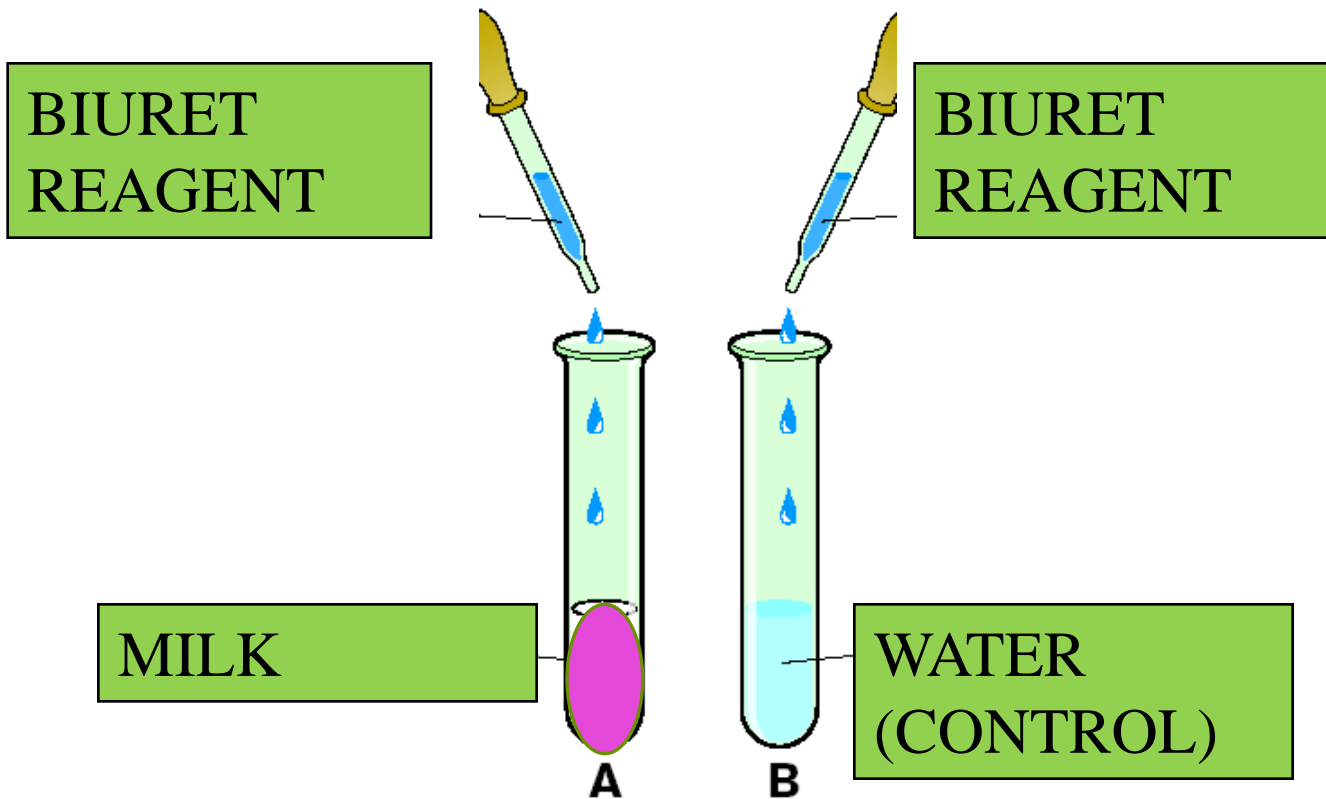


4. To test a food for Protein

- Place Biuret Reagent (Blue) or Sodium Hydroxide (Clear) and Copper Sulphate (Blue) into milk
- The milk will turn purple if Protein is present



TEST FOR PROTEIN -

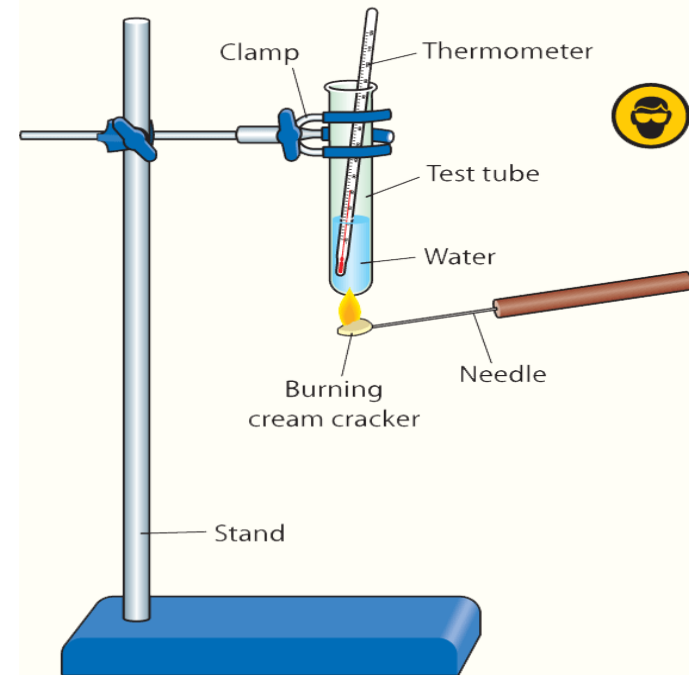


Summary of Food Tests

Food tested	Chemicals used	Positive result
Starch	Iodine	Blue-black
Glucose	Benedict's solution	Red
Fat	Brown paper	Permanent stain
Protein	Sodium hydroxide and copper sulfate	Purple

To investigate the conversion of chemical energy in food to heat energy

- Place a burning cream cracker under the test tube of water
- The temperature of the water will rise as chemical energy in the food turns into heat energy



► Fig 3.18 The conversion of chemical energy to heat energy

You Tube Clips

- <http://www.youtube.com/watch?v=7888T9aJBtQ&feature=related>