

Energy from food – transcript

Materials contain energy, some of which is released as heat if they are burnt. Cells in the body require energy for growth and development. Different types of food provide different amounts of energy to body cells.

In this experiment different foods will be burnt and the energy released will be compared.

Using a measuring cylinder, twenty centimetres cubed of water is put into a boiling tube. The boiling tube is clamped in place about thirty centimetres above a heat-proof mat

A table like this one should be created for recording the temperature readings during the experiment.

Next a thermometer is placed into the water. The initial temperature of the water is recorded for the first food sample.

The first sample here is biscuit. It is broken into a piece weighing roughly one gram. The exact mass should be recorded in the table.

The biscuit is held with tongs and placed in the flame of the Bunsen burner. When it starts burning it is positioned directly under the boiling tube. The burning sample is kept in position until the flame goes out.

Immediately after the flame goes out, the water is gently stirred with the thermometer and the final temperature of the water is recorded.

The increase in temperature is calculated by subtracting the initial temperature from the final temperature.

The boiling tube is removed from the clamp and replaced with a clean boiling tube containing twenty centimetres cubed of water.

The procedure is repeated for the remaining food samples.

The food samples are weighed and their masses recorded. Each burning food sample is placed underneath a boiling tube containing the same amount of water and the initial and final temperature of the water in the boiling tubes for each food sample is recorded.

The increase in temperature for each food sample is compared by drawing a bar chart.

Food provides the body with energy. During different activities such as running, sleeping or reading, body cells require different amounts of energy. A balanced diet matches the energy content of a day's meals to a person's daily energy requirements, which is based on age, gender and activity level.

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