

Energy Value of Food

Date: _____

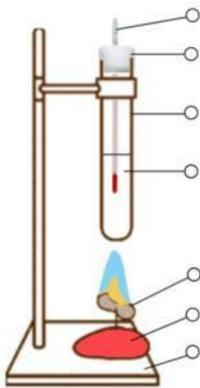
Aim: To compare the energy values of three food items.

Apparatus and materials: Bunsen, balance, thermometer, stand, plasticine, boiling tube, measuring cylinder, pin, cotton, match, rice cake, water, cheese, biscuit

Method [Select from the dropdown list]

1. Exactly 20 mL of water was transferred to a clean boiling tube using a measuring _____.
2. The boiling _____ was clamped on a stand.
3. A _____ was inserted into the water and the initial temperature noted.
4. Exactly 5 g of one food item was weighed on a _____ and then pierced with a pin.
5. The food was lit over a _____ flame and held below the boiling tube using plasticine.
6. After the food was _____ out, the highest temperature of the water was noted.
7. The _____ was repeated using the other food items.
8. All data were recorded in a _____.

Observations Connect the labels then fill in the table based on the video.



- stand
- plasticine
- boiling tube
- cotton
- food item
- water
- thermometer

Table showing temperature rise due to food

Type of Food	Temperature (°C)		
	Initial	Final	Change
Rice cake	18		
Biscuit	18		
Cheese	18		

Diagram showing the setup of apparatus

Discussion: [Type: light, chemical, thermal, temperature, surroundings, food, heat, eye, mass]

Growing plants transform _____ energy from the Sun into _____ energy, which is stored in their roots, stem, leaves and fruits. When the food was burnt, the stored energy was transformed into _____ and _____ energy. Some of the thermal energy increased the _____ of the water and some was lost to the _____.

In this experiment, the independent variable was the type of _____ and the dependent variable was the _____. To allow a fair comparison, the controlled variables were the _____ of food and the water and the closeness of the flame. Two precautions taken were using a _____ proof tile below the lit food and holding the thermometer vertically while reading it at _____ level.

Conclusion [Drag: biscuit drop obesity cheese lowest exercise highest rice cake rise]

The _____ caused the highest temperature _____, which means it has the _____ energy value. Eating too much of this food without sufficient _____ can lead to _____.