



## The National Orthodox School/ Shmessani

Name: .....

Lab visit / **Energy in fuel and food**

Date:

Grade 7CS all sections

### Experiment one: Which fuel source has more heat energy?

**Planning:** Complete the table to show the independent, dependent and control variables.

Variable	Independent, dependent or control?
Type of fuel	<b>Independent</b>
Volume of water	<b>control</b>
Mass of fuel burned	<b>control</b>
Temperature change of water	<b>dependent</b>

### ✓ Results

Fuel	Initial temp.	Duration of heating	Final temp.	Temperature change
				<b>Final temp – Initial temp</b>
ethanol	Ex: 23.5	3 min	Ex: 27	27-23.5= 3.5
butanol	Ex: 28	3 min	Ex: 35	35-28= 7

### ✓ Conclusion:

- ✓ Different types of fuel have different amount of energy.
- ✓ The energy is released by burning (combustion reaction)

## Experiment two: Which food has more heat energy?

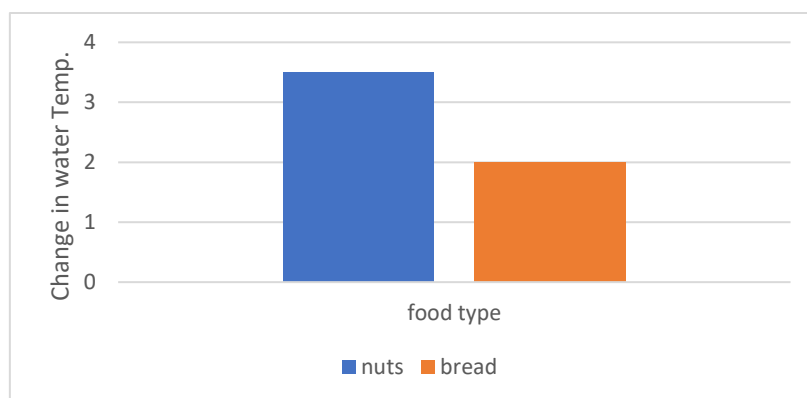
**Planning:** Complete the table to show the independent, dependent and control variables.

Variable	Independent, dependent or control?
Type of food	<b>Independent</b>
Volume of water	<b>Control</b>
Mass of food burned	<b>Control</b>
Temperature change of water	<b>Dependent</b>

✓ **Results** Draw a table of results including all data that must be shown.

Type of food	Initial temp. C	Duration of heating	Final temp. C	Temperature change C Final temp – Initial temp
nuts	Ex:38	2 min	Ex:41.5	41.5-38= 3.5
bread	Ex:42	2 min	Ex:44	44-42= 2

✓ Draw a bar chart to represent the data you have collected



✓ **Conclusion:**

- Different types of food have different amount of energy.
- The energy is released by burning (combustion reaction)