

(1) Biology—Respiration

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|--------------------|---|
| Respiration | A chemical reaction that takes place in the mitochondria. Releases energy for life processes. |
|--------------------|---|

Aerobic Respiration:

oxygen + glucose → water + carbon dioxide

Anaerobic Respiration: In plants and animals

glucose → lactic acid

Additional oxygen is needed to get rid of lactic acid.

The oxygen required to do this is called the oxygen debt.

Anaerobic Respiration in Fungi (fermentation)

glucose → ethanol + carbon dioxide

Anaerobic respiration releases **less energy** than aerobic respiration

(2) Chemistry— Investigating Catalysts

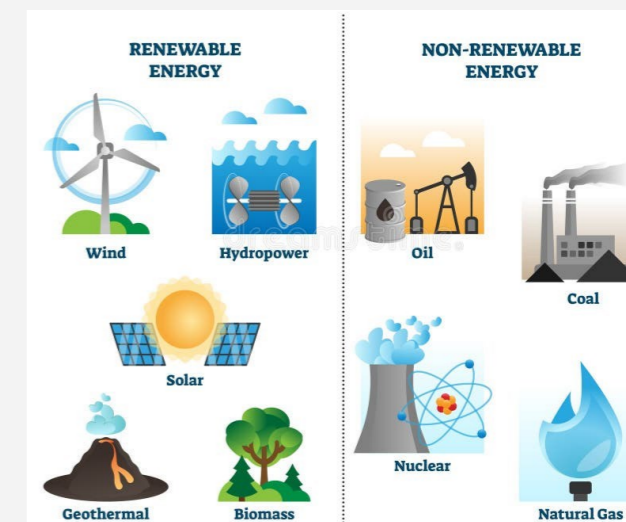
Catalysts

A substance which increases the rate of a chemical reaction without being used up.

| | |
|-------------------|---|
| Accurate | The result is close to the expected value |
| Precise | All of the results are close together |
| Repeatable | The same results can be achieved when the experiment is repeated |
| Method | A clear and concise set of instructions to carry out an investigation |

(3) Physics— Energy Sources

| | |
|----------------------|---|
| Renewable | An energy source that <u>will not</u> run out on a time scale of 1 million years e.g. solar and wind. |
| Non-renewable | An energy source that <u>will</u> run out on a time scale of 1 million years e.g. coal, oil or gas. |



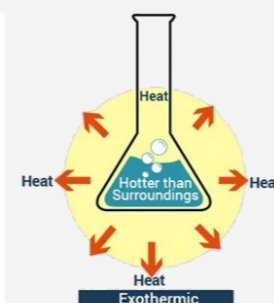
(4) Biology— Investigating Effect of Exercise

| | |
|-----------------------------|---|
| Independent Variable | The factor that is changed in the investigation. Found in the first column of a table, and the x axis of a graph. |
| Dependent Variable | The factor that is measured in the investigation. Found in the y axis of a graph. |
| Control Variable | Factors in the investigation that must be kept the same for each repeat. |

(4) Chemistry—Exothermic and Endothermic Reactions

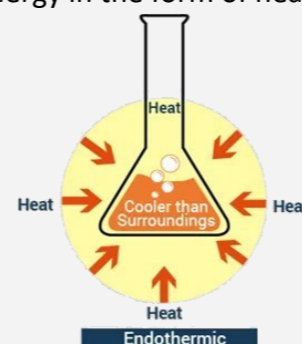
Exothermic

A reaction which releases energy in the form of heat to the surroundings.



Endothermic

A reaction which absorbs energy in the form of heat from the surroundings.



(6) Physics— Energy

| | |
|---------------|--|
| Energy | A quantity required to do work e.g. movement or heating. |
| Power | The rate of energy transfer, measured in watts (W). Power (W) = Energy (J) ÷ time (S) |

Converting units:

1000 W = 1 kW

1000 J = 1 kJ

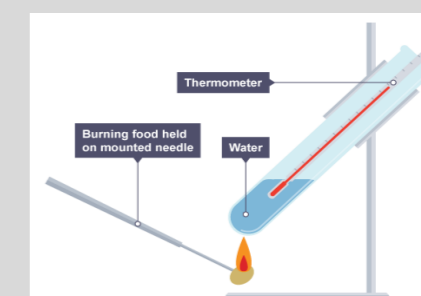
3,600,000 J = 1 kWh

3600 s = 1 h

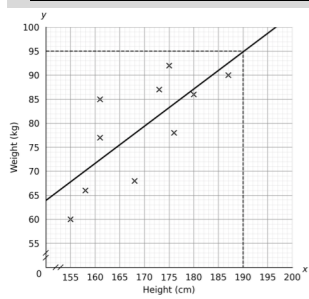
Energy in Food Investigation

Hazard: something that could cause harm to you or another person e.g. broken glass

Risk: how the hazard causes harm e.g. cuts



Presenting data— line graph



- ✓ Independent variable on the x axis
- ✓ Dependent variable on the y axis
- ✓ Both axis labelled with units
- ✓ Line of best fit plotted

“As the (x axis value) increases the (y axis value)



Trinity TV

For more help, visit Trinity TV and watch the following videos:

Trinity TV > Year 7 > Science > term 6