

Energy

1. Energy costs

CONCEPT 1

ENERGY FROM FUEL AND FOOD

NOTES

Energy is required every day to light and heat our homes, power electrical devices such as the TV and to charge our mobile phones.

Energy is measured in joules (J). 1 joule is a very small amount of energy so we sometimes use kilojoules (kJ). $1000\text{J} = 1\text{kJ}$.

Fuels are a way of providing us with the energy we need.

Fuels are a store of chemical energy. This store of energy is called an energy resource. Examples of fuels include wood, fossil fuels, hydrogen and the food that we eat.

Food is fuel for our bodies. Energy stored in food is often called its 'energy content' and measured in kilojoules. Food labels also detail the 'calorie content'. This is an older unit of energy that scientists no longer use. During digestion food is changed into chemicals that store energy in body cells.

Alongside fuels, energy can also be stored in a variety of other ways such as in a battery or a tank of hot water that has been heated up.

Stored energy can be transferred from one store to another. The change that occurs when this happens can be useful to us. Combustion is an example of a useful energy transfer. Chemical energy stored in a fuel react with oxygen in the air transferring energy into heat and light.

The energy stored in body cells is transferred during body processes that enable the body to move, grow, repair, reproduce, respond to our surroundings and keep healthy.