



2024-2025 Spring Design Technology Knowledge Organisers



TO DO

- ☒ creative
- ☒ concept
- ☐

es!

Innovation

Y1 Spring—DT—Travelling Around the UK

Wheels and Axels

Different wheels move in different ways. There are lots of different types of wheels you could use on a pull along toy or toy car.



Wood/card/
MDF



Plastic

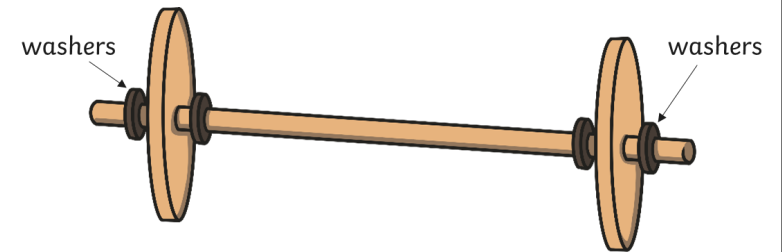


Cotton reels



Foam covered reels

The wheels are joined together using an axle. An axle is a rod that goes through the middle of a wheel. Real vehicles, such as cars and vans, also have axles.. To stop the wheels from moving on our toys, we can put washers on either side or blobs of modelling clay.



Existing products



Chassis	A chassis (said 'shah-see') is a frame which the rest of the vehicle is built.
Axle	A rod through the wheel so that the wheels can turn.
Dowel	Wooden rods used for making axles.

DT Knowledge

Healthy Eating

It is important to eat a variety of food in our diets. We should eat lots of fruits and vegetables (at least 5 portions every day!) to be healthy and get lots of vitamins.

We should eat foods that are high in fat/salt/sugar less often and in small amounts.

As well as eating healthy, we need to remember to drink water to keep our bodies hydrated!

Where does our food come from?

All food has to be farmed, grown or caught. A lot of food we eat is produced in the UK. Ingredients are available from different shops or supermarkets or can be grown at home.

- Plants are grown. Fruits, vegetables, cereals and potatoes are all plants.
- Animals are reared. Cows, sheep, pigs and chicken are reared for our food. Dairy cows provide milk.
- Fish are caught. There are lots of types of fish like cod, salmon and prawns.



Farming potatoes



Farming wheat



Dairy cows



Fishing

Cooking vocabulary



Dicing



Peeling



Sieving



Grating



Slicing



Pouring



Chopping



Zesting



Melting



Whisking



Weighing



Stirring

Y3 Spring—DT—Rivers and Mountains

Existing products

Bunting is often used as a decoration. It is often made of fabric but it can also be made of plastic, paper and card.



Key vocabulary

Design criteria— A list of goals that your product should achieve to be successful.

Annotated sketch—A labelled drawing of your design.

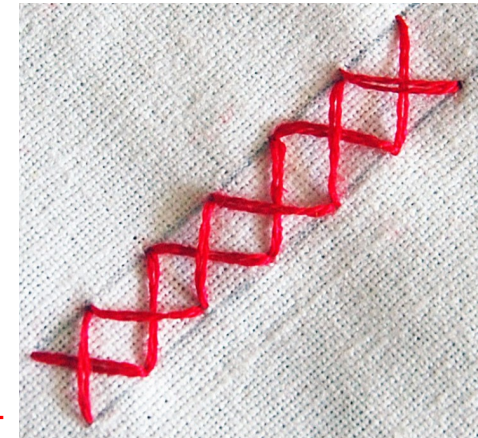
Textiles— Any material that is made from fibres or yarns

Stitch— A loop of thread made using a needle

Template— A shaped piece of rigid material used as a pattern for processes such as cutting out.

Stitches

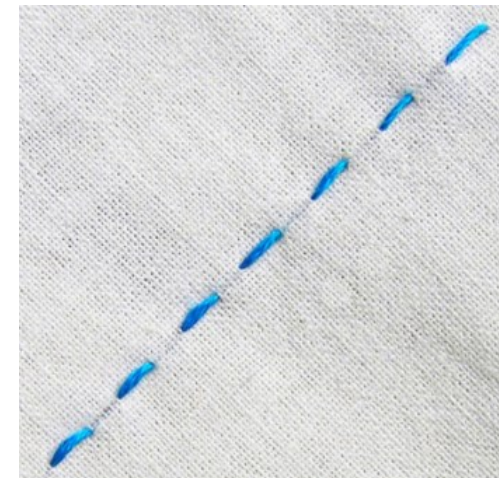
Cross stitch- A stitch formed of two stitches crossing each other.



Running stitch—

consisting of a line of small even stitches which run back and forth through the cloth without overlapping.

A simple stitch



Y4 Spring—DT—The Polar Regions

Existing products

There are lots of different types of portable lights and torches including...



Lanterns



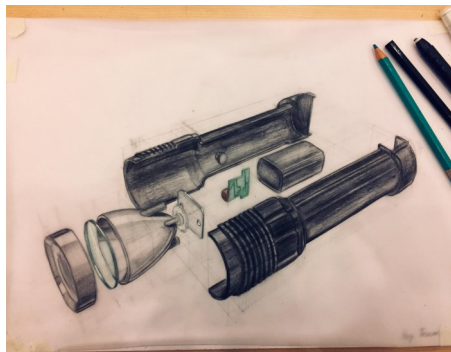
Handheld

torches



Hands free

head torches



An exploded diagram showing the different components that make a torch.

Circuits

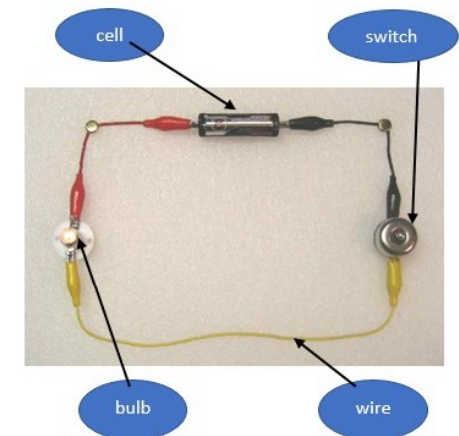
Everything we own that uses electricity will have an electric circuit. These circuits are made up of different electrical components.

A circuit always starts with a battery. A flow of electricity moves from the positive pole to the negative pole of the battery.

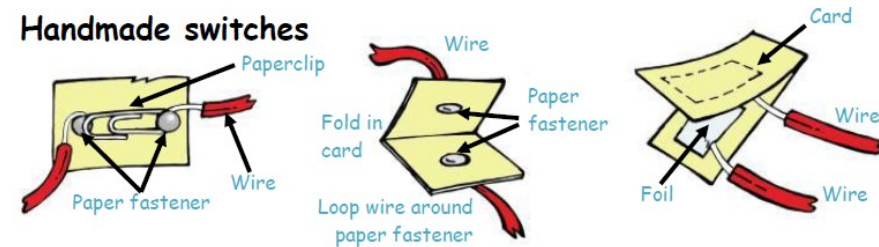
Bulbs glow and light up when electricity passes through them.

A switch breaks the circuit and stops the flow of electricity.

Electrical circuit with a bulb



Handmade switches



Vocabulary

circuit	A path through which electricity passes.
conductor	A material which allows an electric current to pass through it.
insulator	A material which does not easily allow electric current to pass through it.
prototype	A model made to test whether a design will work .
exploded diagram	An exploded diagram shows all of the different components that make up a product.

Y5 Spring—DT—Natural Disasters

Existing products

There are lots of different types of disaster alert systems that are used in real life such as:

Grillo.

Inspired by an earthquake in Haiti, this tiny computer detects earthquakes and sends an alert message to mobile phones or through a loud speaker in busy areas.



Tepmachcha

In Cambodia, many people are affected by flooding. This alert system measures the height of water and sends a message when danger is detected about how to keep safe.

Bosch sensor

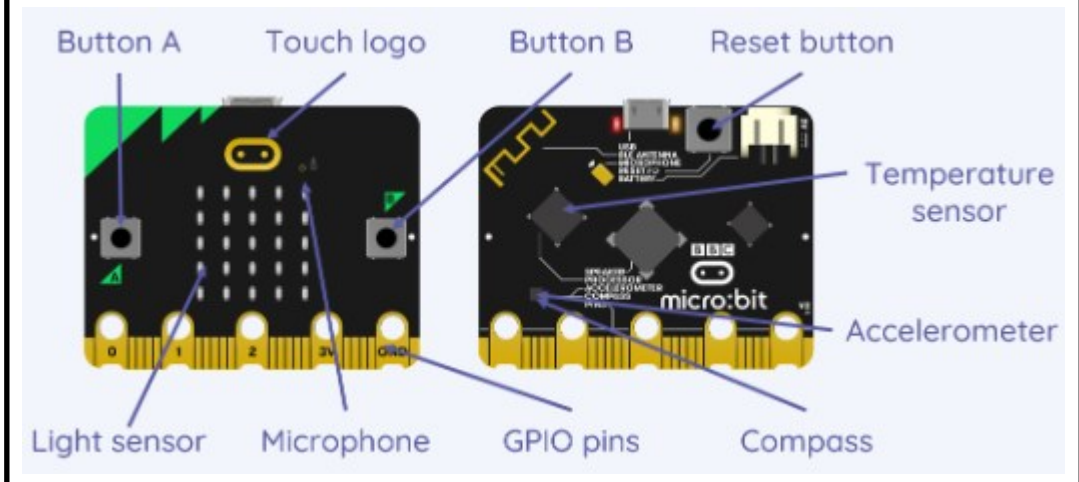
Due to increased forest fires in the US and around the world, the Bosch sensor was invented. It acts as a tiny 'nose' that sniffs out gases in the air to detect wildfires.



Disaster alert system

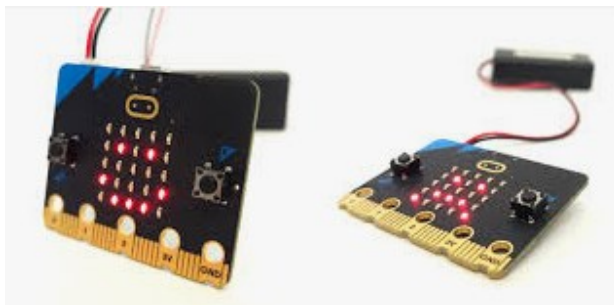
A disaster alert system can be used to help reduce the negative impact of natural disasters by alerting humans early enough so they can try to minimise the problem or get to safety.

We will be creating an alert system using Micro:bits. A Micro:bit is a small computer. It contains sensors including an accelerometer (that senses movement), a light sensor (that senses changes in light) and a temperature sensor (that is triggered by a change in heat).



Vocabulary

sensors	A device which detects or measures a physical property and records, indicates or otherwise responds to it.
hardware	Tools, machinery and other durable equipment.
software	The programs and other operating information used by a computer.
circuit	A circuit contains a power source and devices, which are connected together in a loop using wires.
data	The quantities, characters or symbols on which operations are performed by a computer.



Micro:bits.

YG Spring—DT (Cooking and Nutrition)

In this unit, we will learn how to confidently plan a series of healthy meals based on the principles of a healthy and varied diet. To make healthy choices, we can use the Eatwell plate as a guide and look at the information on food labels!

The human body needs a balanced diet to work properly. Good health involves drinking enough water and eating the right amount of foods from the different food groups. Carbohydrates give us energy. They are found in foods such as bread, potatoes and pasta. Proteins help our bodies to repair themselves. They are found in foods such as fish, meat, beans, nuts, seeds, eggs and cheese. Fats help store energy for our bodies. They are found in foods such as butter, cheese, nuts and fried food. Fibre is important for helping us digest our foods. It's found in fruit and vegetables.

Key vocabulary

Healthy To be fit and well

Varied: To have a broad range of foods as part of a person's diet.

Values: Refers to the moral or religious beliefs that shape a person's diet.

Nutrition: The process of providing or obtaining the food necessary for health and growth.

Preferences: The preferred choice someone would choose out of the options available.

Wants: Refers to those things we desire to eat.

Needs: Refers to the things essential to a person's diet.

Diet: The food that a person chooses to eat because of their wants, needs or values.

