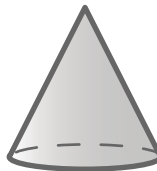
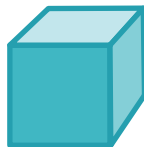


Structures - Constructing a castle

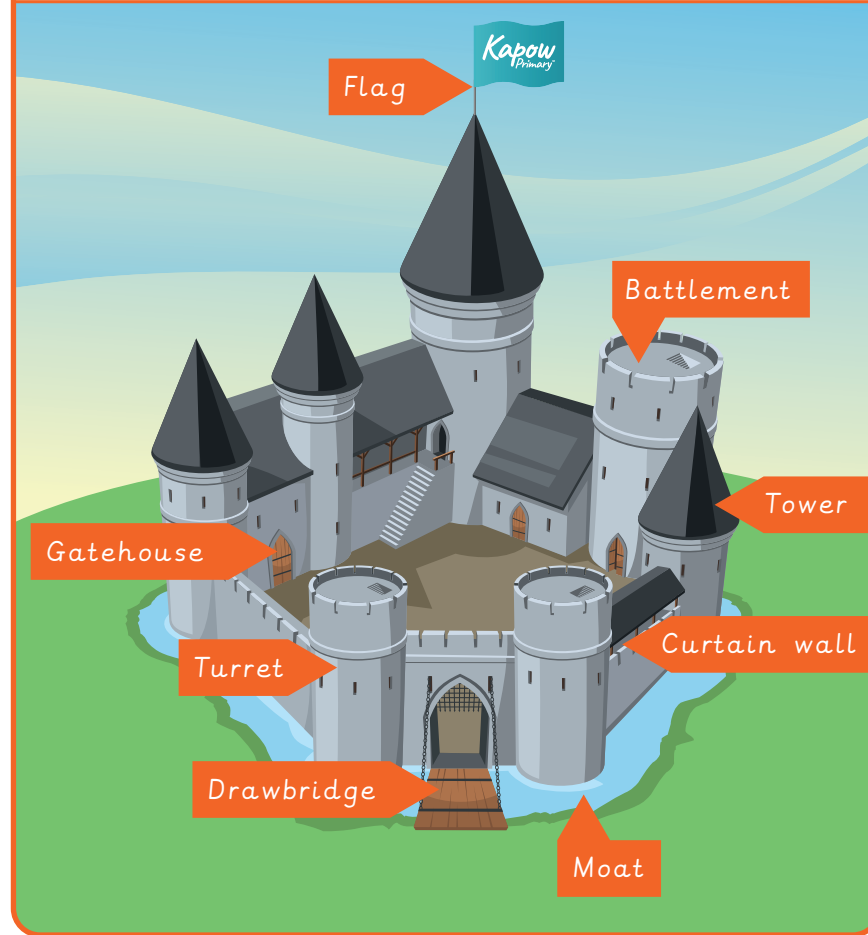
2D shapes	Flat objects with 2-dimensions, such as square, rectangle and circle.
3D shapes	Solid objects with 3-dimensions, such as cube, oblong and sphere.
Castle	A type of building that used to be built hundreds of years ago to defend land and be a home for Kings and Queens and other very rich people.
Design criteria	A set of rules to help designers focus their ideas and test the success of them.
Evaluation	When you look at the good and bad points about something, then think about how you could improve it.
Façade	The front of a structure.
Feature	A specific part of something.
Flag	A piece of cloth used as a decoration or to represent a country or symbol.
Net	A 2D flat shape, that can become a 3D shape once assembled.
Recyclable	Material or an object that, when no longer wanted or needed, can be made into something else new.
Scoring	Scratching a line with a sharp object into card to make the card easier to bend.
Stable	Object does not easily topple over.
Strong	It doesn't break easily.
Structure	Something which stands, usually on its own.
Tab	The small tabs on the net template that are bent and glued down to hold the shape together.
Weak	It breaks easily.

Basic
3D
Shapes



Key facts

Castles can have lots of **features** such as towers, turrets, battlements, moats, gatehouses, curtain walls, drawbridges and flags.



Did you know?

Windsor Castle is the largest castle in England.

It is one of the three homes owned by Queen Elizabeth II.



Food - Eating seasonally

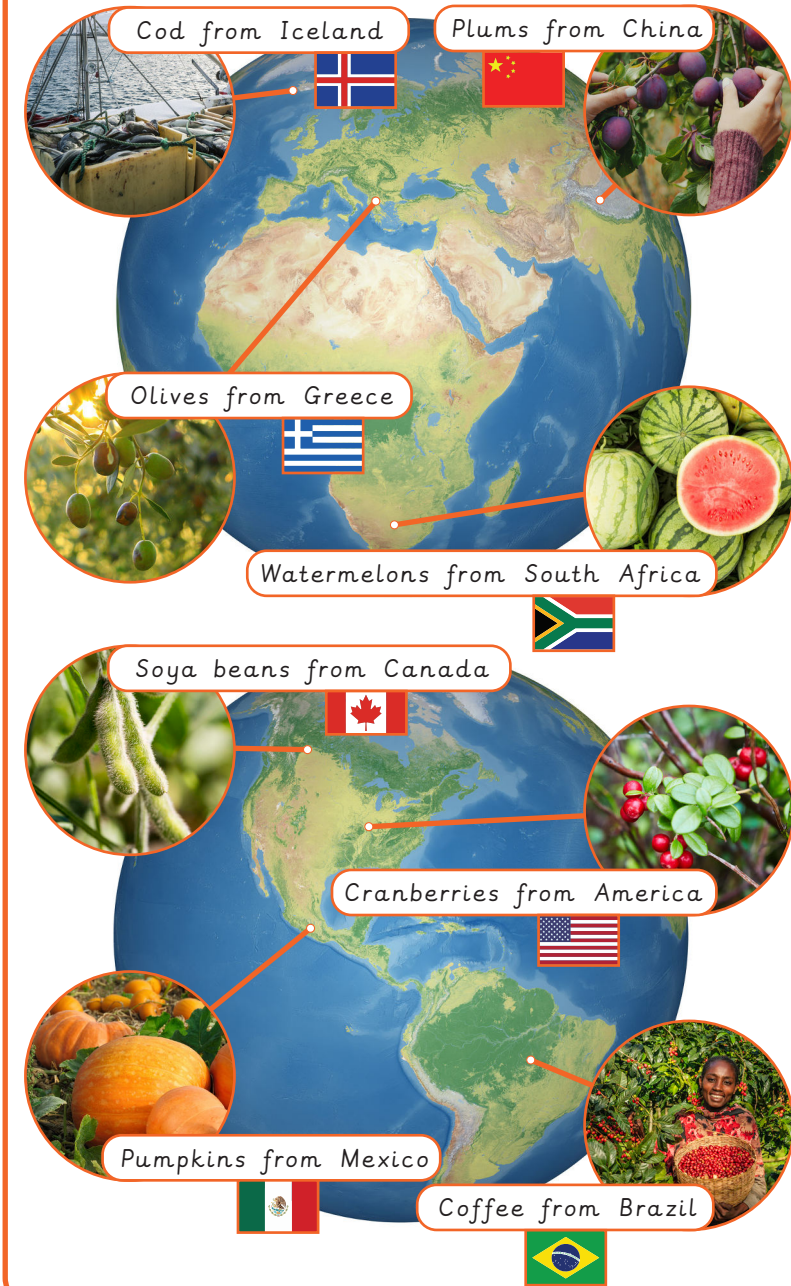
Climate	The weather and temperature in each country in the world, depends on which climate group that country is located. There are five climate groups: polar, temperate, dry, tropical and mediterranean.
Dry climate	Less than 250mm of rain, fog, sleet or snow in total across a whole year.
Exported	When products or produce, such as fruit and vegetables, are sent to another country.
Imported	When products or produce, such as fruit and vegetables, are brought into a country.
Mediterranean climate	Hot dry summers and cooler wetter winters.
Nationality	Belonging to a particular country (e.g. a person with Italian nationality comes from Italy).
Nutrients	Substances in food that all living things need to make energy, grow and develop.
Polar climate	Long periods of extreme cold.
Recipe	A set of instructions for making or preparing a food item or dish.
Seasonal food	Food that can be harvested and is ready to eat in a particular season.
Seasons	The seasons of the year are spring, summer, autumn and winter.
Temperate climate	Mild temperatures, where the summers are not too hot and the winters are not too cold.
Tropical climate	High temperatures and a lot of rain. This is where you will find the world's rainforests.

Fruits and vegetables are full of vitamins, minerals and fibre. These **nutrients** help us to grow, heal, give us energy and keep us healthy.



Key facts

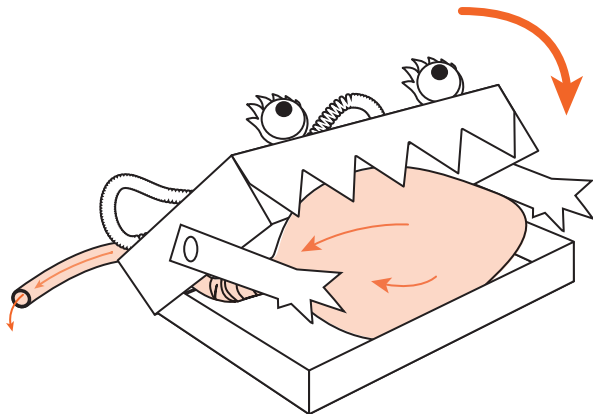
Not all fruits and vegetables can be grown in Britain. Many foods are **imported** from all across the globe. Here are some examples:



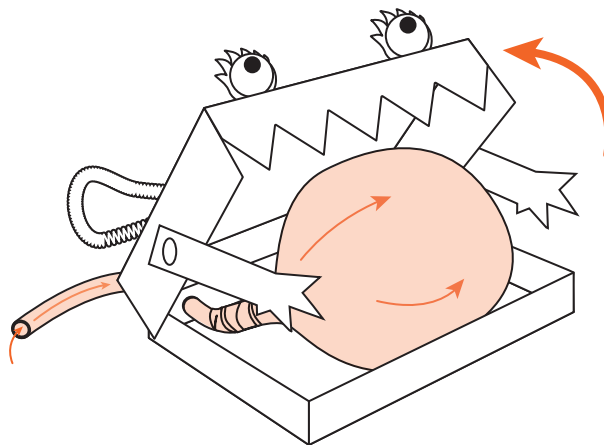
Mechanical systems - Pneumatic toys

Exploded-diagram	A diagram which shows all of the parts of a product, including the internal and external parts.
Function	How something works.
Input	Input is the motion used to start a mechanism.
Linkage	Lengths of material (for example, metal or card) that are joined together by pivots, so that the links can move as part of a mechanism.
Mechanism	The parts of an object that move together as part of a machine.
Motion	The movement an object makes when controlled by an input or output (e.g. left, right, up, down).
Net	A 2D flat shape, that can become a 3D shape once assembled.
Output	Output is the motion that happens as a result of starting the input.
Pivot	The central point, pin, or shaft on which a mechanism turns or swings.
Pneumatic system	A mechanism that runs on air or compressed gas.
Thumbnail sketch	Small drawings to get ideas down on paper quickly.

When air exits the balloon, the monster's mouth closes.

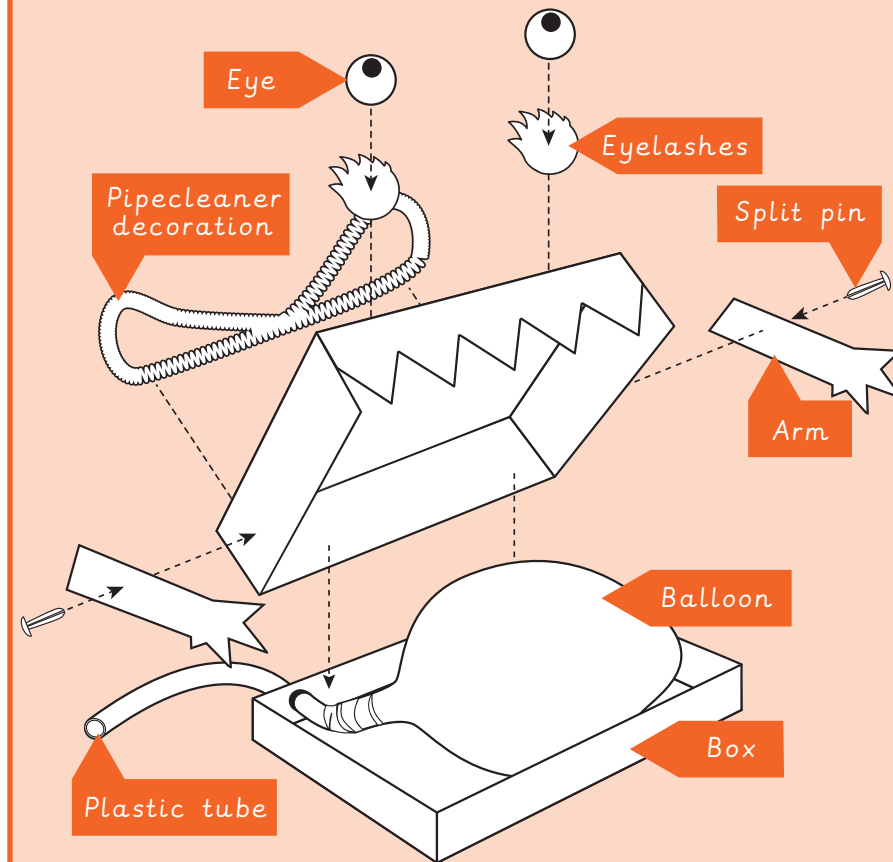


When air enters the balloon, the monster's mouth opens.

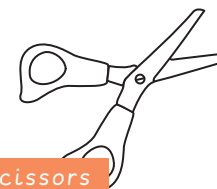


Key facts

Exploded-diagrams allow us to see how a product is put together and the different components inside.



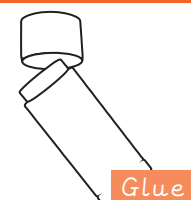
You will need:



Scissors



Sticky tape



Glue

Tie a pipecleaner into a bow



Electrical Systems - Static electricity

Attract	Where there is an invisible power that pushes or pulls an object towards another object.
Component	One of two or more parts of which something is made.
Constructive criticism	Suggestions given in a kind and friendly way on how something can be made better, rather than just saying what is wrong.
Design criteria	A set of rules to help designers focus their ideas and test the success of them.
Electrostatic	Energy caused by the positive and negative electrical charges of objects when rubbed together.
Evaluation	When you look at the good and bad points about something, then think about how you could improve it.
Feedback	Information about how good or useful something or somebody's work is.
Motion	The movement an object makes when controlled by an input or output (e.g. left, right, up, down).
Repel	Where there is an invisible power that pushes or pulls an object away from another object.
Target audience	A person or particular group of people at whom a product is aimed.
Test	To find out whether something works as it should.

Did you know?

If you rub a balloon up and down your body or go down a plastic slide, you will generate an **electrostatic** charge.

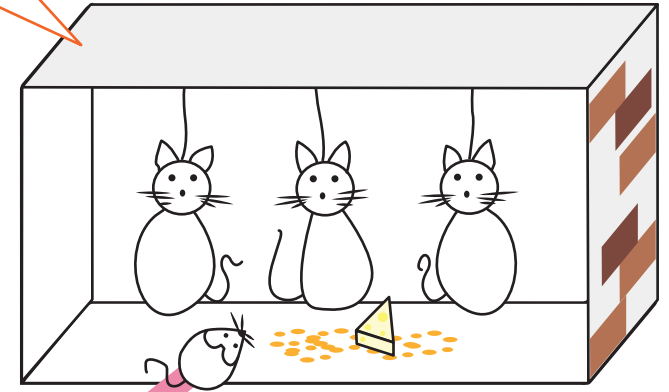
Each of the strands of your hair will stand on end as they try to push away from each other.



Key facts

Design criteria are the rules and requirements that the product must meet if it is to be successful (e.g. size, shape, texture, colour, theme).

Does this design meet all the criteria below?



They remind the designer what they must include in the design and what the product must be able to do when finished.



Textiles - Cushions

Accurate	Neat, correct shape, size and pattern with no mistakes.
Appliqué	Appliqué is a type of textiles work where small pieces of cloth are sewn or stuck in a pattern onto a larger piece.
Cross-stitch	A two-stitch style of sewing which forms a cross pattern.
Cushion	A stuffed shape of fabric, used to make sitting more comfortable.
Decorate	To add details to a design to improve its appearance.
Detail	The small features of an object.
Fabric	A natural or man-made woven or knitted material that is made from plant fibres, animal fur or synthetic material.
Patch	A piece of material sewn over the top of a larger piece, sometimes just for decoration and sometimes to cover a hole in the underneath material.
Running-stitch	A simple style of sewing in a straight line with no overlapping.
Seam	Where two edges of cloth are joined or sewn together.
Stencil	A shape that you can draw around.
Stuffing	Soft material used to fill cushions and stuffed toys.
Target audience	A person or particular group of people at whom a product is aimed.

Beads, buttons or sequins can be used to decorate your cushion.



Key facts

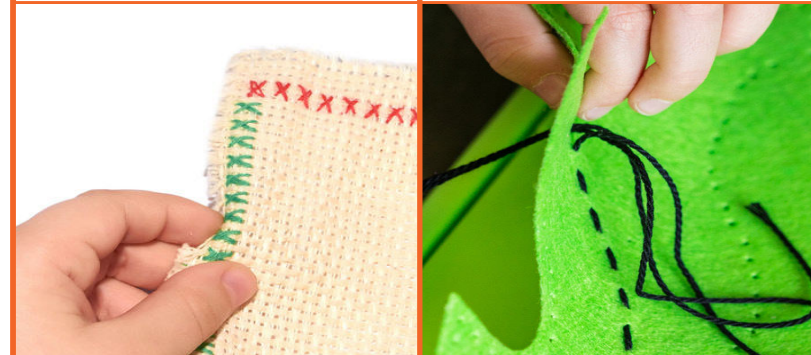
Appliqué



Cross-stitch



Running-stitch



Remember to tie a knot in your thread so that the stitches stay secure and do not come undone!

