Food - A balanced diet

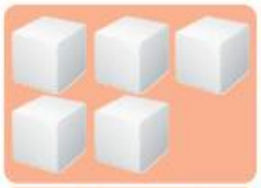
Alternative	Changing an ingredient to something different. For example using diet cola instead of full sugar cola or eating a piece of fruit instead of a bag of crisps.
Diet	The food and drink that a person or animal usually eats.
Balanced diet	Eating a variety of foods from all five different food groups.
Evaluation	When you look at the good and bad points about something, then think about how you could improve it.
Expensive	Something that costs a lot of money.
Healthy	When everything in your body and head feels good.
Ingredients	Items that make up a mixture e.g. foods that make a recipe.
Nutrients	Substances in food that all living things need to make energy, grow and develop.
Packaging	The packet or container, which holds a product safe, ready to be sold. It has information on about the product.
Refrigerator	A large kitchen appliance that keeps food and drink cold so that it will keep fresh for longer.
Sugar	An ingredient which is used to make food taste sweet. It comes from the sugar cane plant or from sugar beet.

Key facts

The five different food groups are:

1. Carbohydrates
2. Fruits and vegetables
3. Protein
4. Dairy
5. Foods high in fat and sugar

Hidden sugars: Many unexpected food products can have high amounts of **sugar** such as pasta sauces and fizzy pop.

A jar of tomato pasta sauce	One plain white bagel	One granola bar	Fruit fromage frais pot
  20 grams	  6 grams	  8 grams	  10 grams

Structures - Baby bear's chair

Function	How something works.
Man-made	Made by people.
Mould	To form different shapes out of soft, squishy materials.
Natural	Found in nature e.g. spider's web, sheep's wool.
Stable	Object does not easily topple over.
Stiff	A material or object that does not bend easily (e.g. wood).
Strong	Something that is not easily broken (e.g. wood, brick, building).
Structure	Something that has been made and put together and can usually stand on its own (e.g. a building, a bridge, a chair).
Test	To find out whether something works as it should.
Weak	Something that is easily broken (e.g. paper, egg shells).

Natural Objects

Man-made Objects

Key facts

Often **structures** have a certain **function**, they are made to do something. e.g. Chairs are for sitting on.

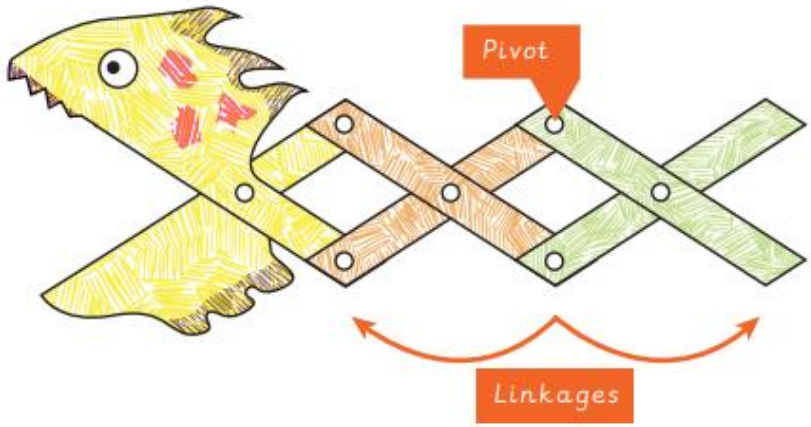
They should be **stable**, **strong** and comfortable. Was baby bear's chair **stable** and **strong**?

Mechanisms - Making a moving monster

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.
Input	The energy that is used to start something working.
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.
Mechanical	Something that can move because several pieces work together like a machine.
Mechanism	A collection of parts that work together to create a movement, eg: a bicycle.
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.
Survey	To ask a group of people questions about something and to use their answers to make improvements.

Key facts

Moving monster



What materials could you use to represent fur, scales and claws?

The four types of motion:

Linear motion
Movement in a straight line in any one direction.

Reciprocating motion
Movement in a straight line, back and forth, in any direction.

Rotary motion
Movement in a circular motion.

Oscillating motion
Movement in a curve, back and forth.

Textiles - Pouches

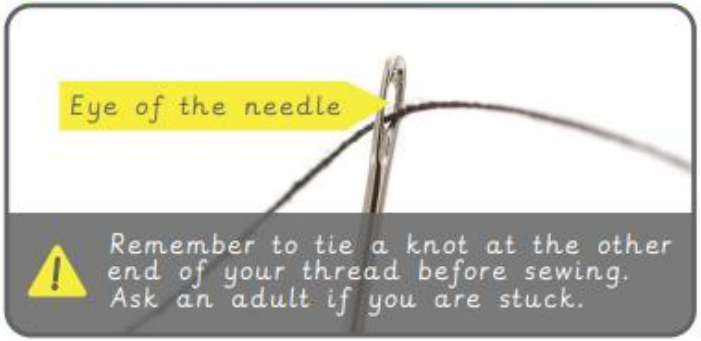
Accurate	Neat, correct shape, size and pattern with no mistakes.
Fabric	A natural or man-made woven or knitted material that is made from plant fibres, animal fur or synthetic material.
Knot	A join made by tying two pieces of string or rope together.
Pouch	A small bag made to keep objects safe and to be carried easily.
Running-stitch	A simple style of sewing in a straight line with no overlapping.
Sew	To join or fasten by stitches made using a needle and thread.
Shape	The form of an object.
Stencil	A shape that you can draw around.
Template	A stencil which you use to help you draw a shape more easily on to different materials.
Thimble	A small metal cap to cover and protect your finger when sewing.

Here are some examples of sewn products:

Key facts

Remember to plan where your stitches will go on the pouch **template**.

When cutting the **template** out, be careful and as **accurate** as possible.



Remember to tie a knot at the other end of your thread before sewing. Ask an adult if you are stuck.

Mechanisms - Fairground wheel

Axle	A long straight piece of material which connects to a rotating component (e.g. the wheels of a car).
Decorate	To add details to a design to improve its appearance.
Evaluation	When you look at the good and bad points about something, then think about how you could improve it.
Ferris wheel	A ride at a fairground which carries passengers around a large vertical wheel.
Ferris wheel pod	The container which carries passengers around the ferris wheel.
Mechanism	The parts of an object that move together as part of a machine.
Stable	Object does not easily topple over.
Strong	Something that is not easily broken (e.g. wood, brick, building).
Test	To find out whether something works as it should.
Waterproof	Material that does not allow water pass through it.
Weak	Something that is easily broken (e.g. eggshells).

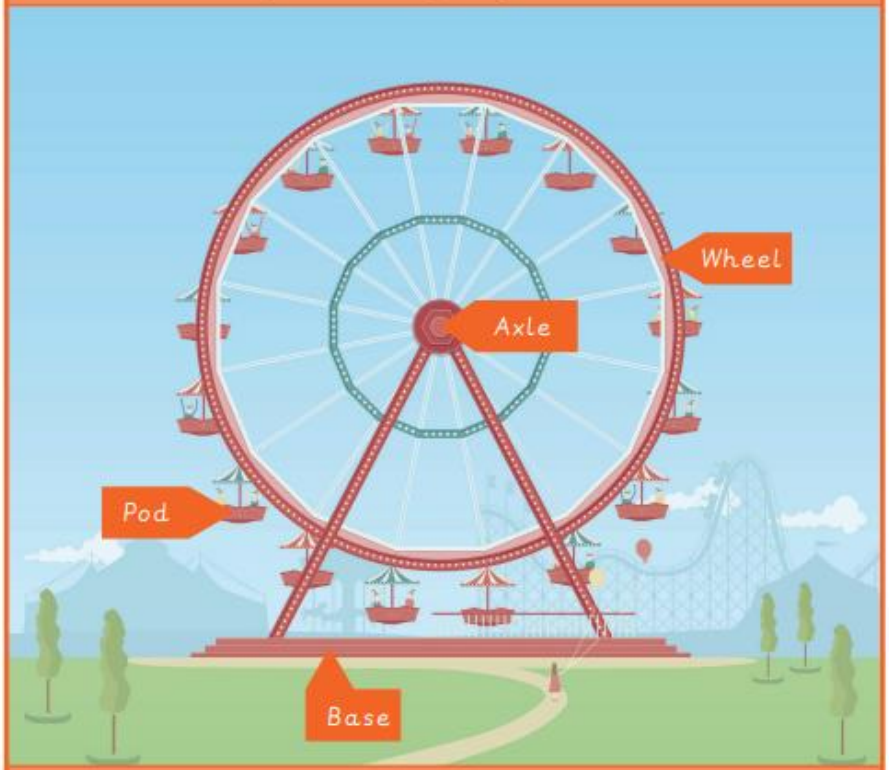
Did you know?

The first **ferris wheel** to be built was called the Chicago wheel, in 1893 over 100 years ago!

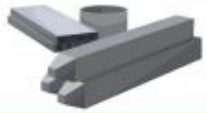
It was over 80 metres tall.

Key facts

The features of a **ferris wheel**.



Materials have different properties. Your **ferris wheel** design will need to be **stable** and **strong**. Which materials could you use?

	Bricks are made from clay. They are stiff and **strong**.
	Wood comes from trees. It is **strong** and flexible.
	Metal comes from ore, that is mined underground. It is **strong** and hard.