

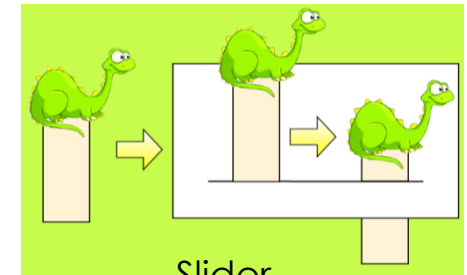
Knowledge Organiser Year 1 Design and Technology: Bears, bears, bears

Concept: Design, make, evaluate – Design and make a moving Christmas card for a family member.

Key Vocabulary	
Mechanism	A system of parts that work together
Landscape	Paper or card with the long side at the top
Portrait	Paper or card with the short side at the top
Slider	A mechanism that allows movement
Lever	A hard bar resting on a pivot
Pivot	A central point or pin on which a mechanism turns



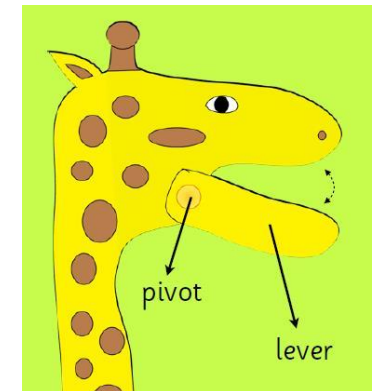
Wheel Mechanism



Slider



Moving pictures in a book



Using split pins

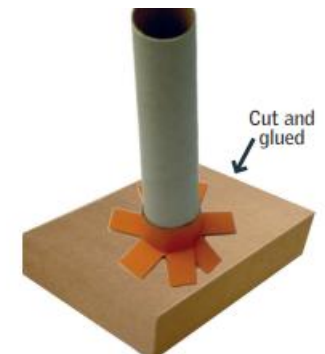
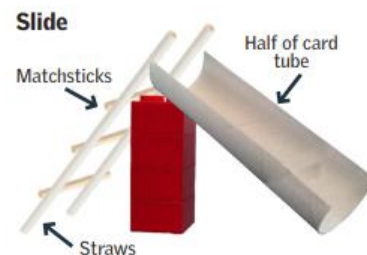
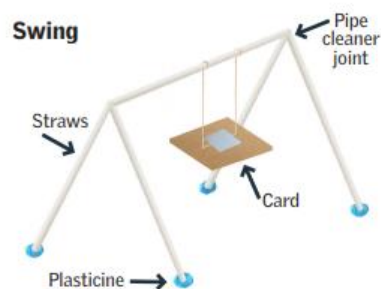


Knowledge Organiser Year 1 Design Technology: Freestanding structures

Concept: Design, make, evaluate – Design a piece of play equipment for a child.

Key Vocabulary

Free standing structure	A free-standing structure stands on its own foundations or base without any attachment to anything.
stable	Something not likely to give way or fall over if pushed or pulled.
strong	Something able to be pushed or pulled without collapsing.
structure	Something built or constructed.
feature	Key parts or characteristics of a person or object.
buttress	An extra piece added to a structure for more strength or stability.



Knowledge Organiser Year 1 Design and Technology

Design a balanced picnic for a RNLI worker.

Concept: Nutrition

Key Vocabulary	
Measure	To weigh or count ingredients
Mix	To combine ingredients
Cut	To divide something into pieces by using using a knife.
Beat	To stir a mixture quickly to add air
Boil	To heat a liquid until it reaches a high temperature
Ingredients	The food items listed in a recipe



Sausage rolls



Sponge cake



Sandwiches



wash



peel



grate



cut



chop



crush



slice



break



beat



stir



pour



roll



mix

Design a healthy flapjack for Morrisons to sell to their customers.

Cooking verbs



wash



peel



grate



cut



chop



crush



slice



break



beat



stir



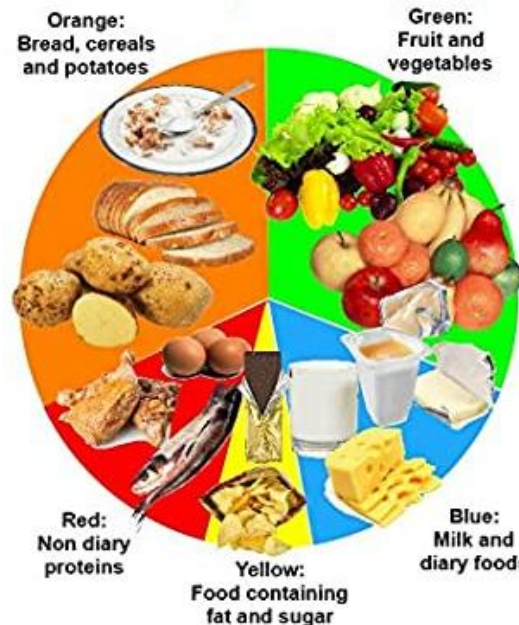
pour



roll



mix



Key Vocabulary	
Cut	To divide into pieces using a knife or sharp object.
Peel	Remove the outer skin or surface of a fruit or vegetable.
Grate	Shred food into small pieces using a grater.
Food Groups	The main food groups are carbohydrates, fruits and vegetables, proteins, fats and dairy products.
Ingredients	The different foods that are combined in a recipe to make a new food.
Varied Diet	Eating a range of foods from across different food groups.
Hygiene	Keeping objects clean in order to prevent disease.

Knowledge Organiser Design Technology Year 2

Concept: Design, Evaluate and Make

Design a decorative wall hanging for a family member.

Key Vocabulary	
Textile	A type of cloth or woven fabric.
Thread	A long, thin strand of cotton, nylon or other fibres used in sewing or weaving.
Running stitch	A simple needlework stitch consisting of a line of small even stitches which run back and forth through the cloth without overlapping.
Appliqué	To attach a decorative fabric item onto another piece of fabric by gluing and/or sewing.
Embroider	To decorate fabric with stitches
Seam	A row of stitches joining two pieces of fabric.
Sew	To join pieces of fabric with stitches.



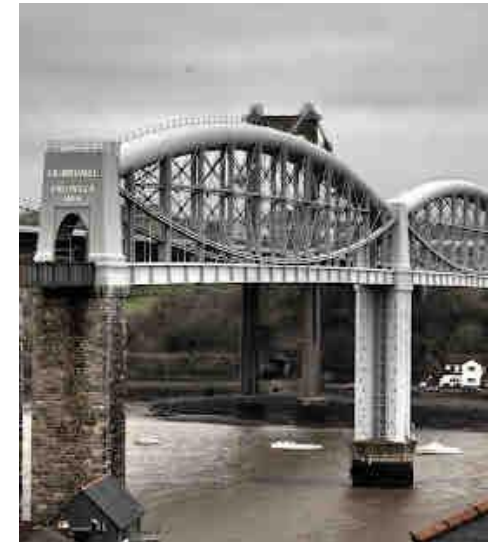
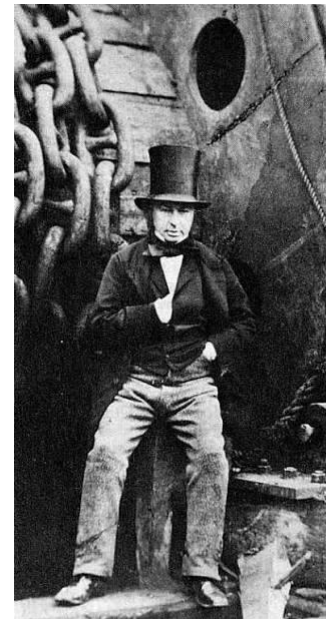
Isambard Kingdom Brunel
- Engineer

Born: 9th April 1806

Died: 15th September 1859

Brunel is probably best remembered for the construction of a network of tunnels, bridges and viaducts for the Great Western Railway.

In 1833, he was appointed their chief engineer and work began on the line that linked London to Bristol.



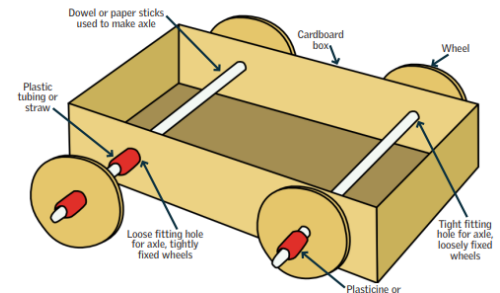
Knowledge Organiser Design Technology Year 2

Concept: Design, make and evaluate

Key Vocabulary

construct	To build, make, form, assemble, set up or put up something
chassis	The frame or base on which a vehicle is built.
structure	Something built or constructed.
friction	Resistance when two things rub together.
dowel	Wooden rods used for making axles to hold wheels.
vehicle	used for transporting people or goods on land, such as car, lorry, or cart
axle	A bar or shaft on which a wheel or wheels turn
architect	A person who designs buildings and also supervises their construction

Design an emergency vehicle to help during the Great Fire of London.



Knowledge Organiser Year 3 DT: Design and make a scone for a family member.

Concept: Nutrition

Key Vocabulary	
Scone	Small slightly sweetened cake.
Knead	Push the dough away from you with your palm, fold it over itself with your fingers and pull it back.
Nutrition	The study of food and how it effects your body.
Sweet	Food that has the taste of sugar or honey.
Savoury	Food that does not taste of sugar or honey but has a fuller flavour.
Food safety	Handling, storing and preparing food to prevent infection.



Traditional Scones are eaten with:
Jam
Clotted cream

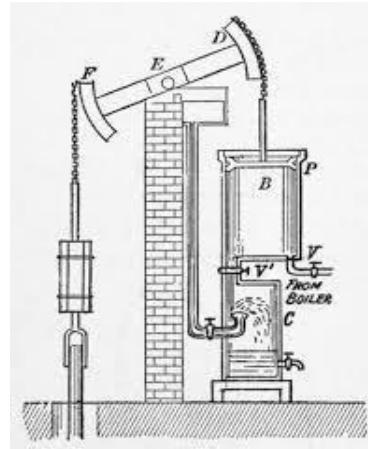


The difference between cream tea in Devonshire and **Cornwall** comes down to how it is served. Both versions serve the same items: tea, scones, jam, and clotted cream. In Devon, the scones are split in two and topped with cream followed by jam. In Cornwall, the split scones are topped with jam and then cream.

Knowledge Organiser Year 3 DT: Design a working pulley to rescue a mine worker.

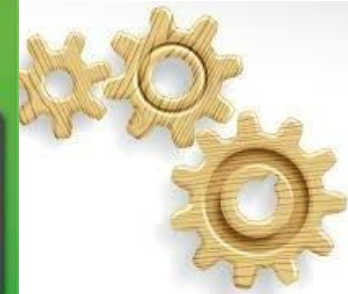
Concept: Design, Make, Evaluate

Key Vocabulary	
Mechanism	Mechanical device used to perform a task.
Lever	Long rigid body balanced on a point.
Pulley	A wheel on a fixed axel which has a rope or cable around it.
Gear	Wheels with teeth that slot together.
Engine	Change energy into movement.
Machine	Device that does a physical task such as moving or lifting objects.



A beam engine used in a mine.

The steam from the engine forces the beam to move. This then lowers and raises the cable of on the left.



Knowledge Organiser Year 3 DT:

Design an attractive, wearable piece of jewellery for myself or a relative.

Concept: Design, Make, Evaluate

Key Vocabulary

Sketch	Sketch: Quickly drawn design used to start a more detailed piece of work.
Modroc	A plaster bandage used for modelling, crafting or casting.
Join	To fix or fasten different object together.
Prototype	An original model which is further developed or improved.
Jewellery	Decorative items worn by people.



- Ring
- Pendant
- Necklace
- Bracelet

From original design sketch to finished product.



Adjectives to form the jewellery: twist, turn, squeeze, mould, push, tighten, pinch, compress, coil, bend

Ancient Egyptian style ideas ...

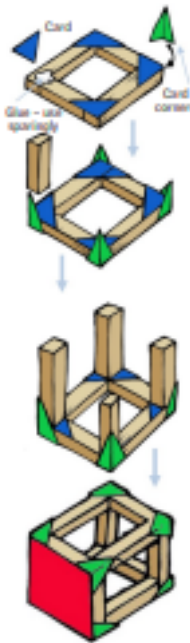
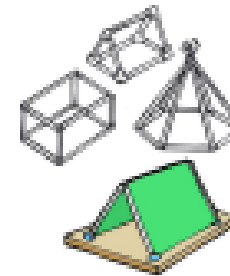
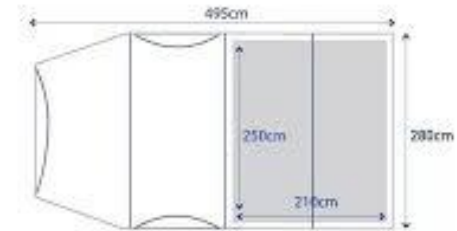
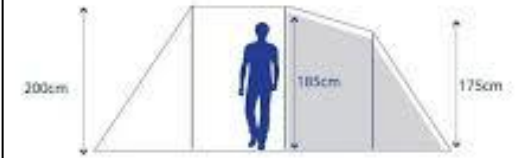


Knowledge Organiser Year 4 DT: Design a structure to shelter in from a natural disaster.

Concept: Design, Make, Evaluate

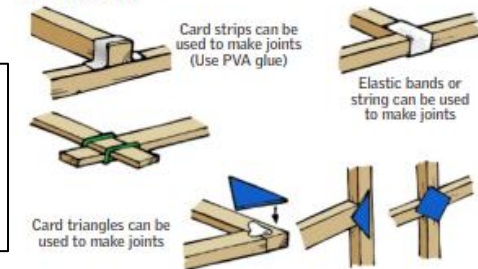
Key Vocabulary	
Frame structure	A structure made from thin components e.g. tent frame.
Assemble	To fit together all of the individual parts of a product.
Rigid	Not flexible (similar to stiff)
Reinforce	To strengthen or support an object by adding more material.
Alteration	A change that has been made to a product or object.
Mark Out	To indicate where cuts to a material should be made.
Strut	A part of a structure under compression.

An annotated diagram should include measurements. It is also good practice to draw your design from different angles to give a clear picture of your design.



Shelters come in all different shapes and sizes. Their purpose is to withstand and protect from the outside elements e.g. weather.

Joining thin sectioned pieces of wood



Shelterbox is a Cornish charity whose mission is to provide emergency shelter to families who have lost their home to disaster, enabling them to rebuild their lives.



Knowledge Organiser Year 4 DT: Design a holder/ purse or wallet for a friend or relative.

Concept: Design, Make, Evaluate

Templates (below) are placed onto fabric as a guide for cutting. This ensures that fabric is cut to the desired size accurately.



Key Vocabulary	
Textile	A type of cloth or woven fabric
Template	A shaped piece of rigid material used as a pattern for processes such as cutting out and shaping.
Felt	A cloth made of wool and fur often mixed with natural or synthetic fibers through
Purpose	The reason for which a product is created and used.
Appliqué	Means 'applied' - describes method of stitching/gluing patches onto fabric (originally to mend holes in worn clothes) to provide decoration.

Knowledge Organiser Year 4: Design, make and evaluate a healthy bread-based product.

Food Technology Concept: Nutrition

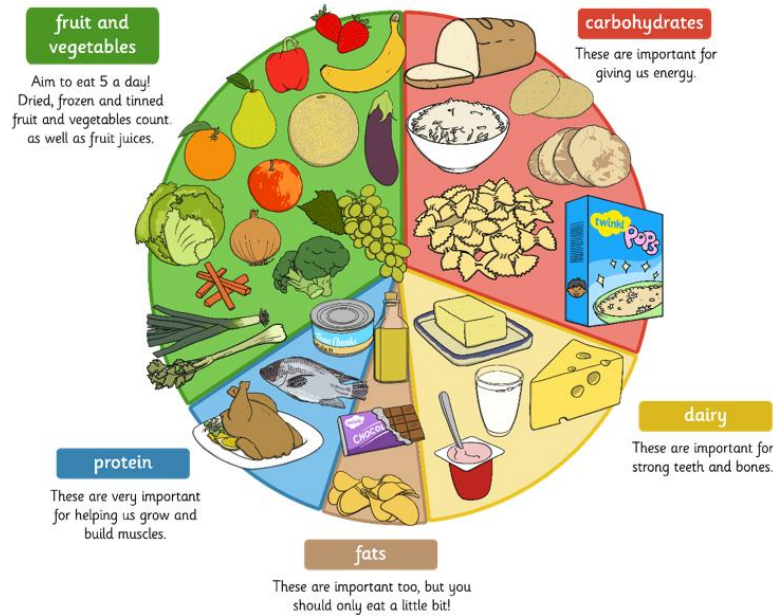
Key Vocabulary

Nutrition	The study of nutrients in food and how the body uses them.
Appearance	How the food looks to the eye.
Texture	How the product feels in the mouth.
Processed food	Ingredients that have been changed in some way to enable them to be eaten or used in food preparation and cooking.
Seasonality	Some ingredients are seasonal and available at different times of the year. They are often fresher and more sustainable.

- Living things need food to grow and to be strong and **healthy**.
- Plants can make their own food, but animals cannot.
- To stay **healthy**, humans need to exercise, eat a **healthy** diet and be hygienic.
- Animals, including humans, need food, water and air to stay alive.



Some foods are required when they are out of season, so producers grow them in hot houses/green houses in the UK. Alternatively, the food is produced abroad and sent to the UK.



Knowledge Organiser Year 5 DT: Design a clay pot in the style fo an Ancient Greek

Concept - Design, make, evaluate

Key Vocabulary	
Coil	Repeated winding of long, cylindrical pieces of clay on top of one another
Score	A technique used to create a rough texture on clay surfaces
Smudge	Applying a glaze to the outside of pottery items
Flatten	To make clay thinner, with uniform thickness
Merge	Joining clay pieces together to create a cohesive form



Joining and Modifying Clay

- **Scoring:** Scratching cross-hatch lines into the clay surface before sticking pieces together.
- **Slip:** A watery mix of clay used like glue to attach two parts firmly.
- **Smooth:** Rubbing the surface with a finger or tool to fix cracks or remove lines.
- **Texture:** Adding patterns or marks to the outside of the pot using tools or objects.

A α	B β	Γ γ	Δ δ	E ε	Z ζ
alpha	beta	gamma	delta	epsilon	zeta
H η	Θ θ	I ι	K κ	Λ λ	M μ
eta	theta	iota	kappa	lambda	mu
N ν	Ξ ξ	O ο	Π π	Ρ ρ	Σ σ/ς
nu	xi	omicron	pi	rho	sigma
T τ	Υ υ	Φ φ	Χ χ	Ψ ψ	Ω ω
tau	upsilon	phi	chi	psi	omega

Knowledge Organiser Year 5

Design a healthy, filling snack for yourself

Concept: Nutrition

Key Vocabulary	
Nutritious	Food that contains substances that a person needs to grow and be healthy is considered nutritious.
Seasonality	The season in which food is grown . For example, British strawberries come into season on the summer.
Appearance	How a product looks. A snack should be visually appealing to the customer as well as nutritious.
Texture	How a food feels to touch of when being eaten. Some foods have a crispy texture whereas others may be chewy.
Hygiene	Hygiene refers to the process of keeping surfaces and food clean through safe preparation of food to limit food diseases.
Savoury	Foods that are salty or spicy rather than sweet.



Healthy snacks should contain little or no added sugar. They often use fresh fruit and vegetables and may have a carbohydrate base of grains, oats or seeds.



Good Carbs
More fiber, minerals & vitamins, Low glycemic index, Feel full on fewer calories



Bad Carbs
Low fiber & nutrients, High glycemic index, Lots calories needed to make you full



Knowledge Organiser Year 5

Design a lever toy for a family member to play with.
Concept: Design, Make, Evaluate

Key Vocabulary	
Prototype	A first form of a product from which later, more finalized forms are developed.
CAD	Computer aided design
Precision	Being exact and accurate with measurements, cuts and other skills when creating a product.
Functionality	How well a product is suited to its intended purpose and use.
Component	A smaller part of a larger product.
Mechanism	A system of parts which work together in a machine. Examples include levers, pulleys and gears.
Lever	A solid bar attached at a single pivot point.
Framed structure	A construction system composed of beams, columns, and slabs that provides stability and support.

Example catapults with a lever:



A simple lever mechanism:

