Year 4: Food and Nutrition
What's really in your food?

Core content:

Explore the difference between freshly made food and mass-produced food.
Learn how to make food that is commonly shop bought.
Explore the nutritional benefits of homemade food.

Technical vocabulary:

Ingredients – any foods or substances combined to make a particular dish.

Processed – food that has been treated in order to change or preserve it.

Bread – a food made from flour, water and usually yeast, mixed and baked.

Gluten – a protein that is contained in wheat and some other grains.

Knead – to press a mixture for making bread, firmly and repeatedly with the hands and fingers.

Ferment – to experience a chemical change because of the action of yeast or bacteria.

Techniques:

shaping | *rolling* | *sautéing*

Year 4 Food and Nutrition
What's really in your food?

What do I already know?

I can identify some of the nutrients in a range of foods.

I can dice, slice, chop and grate vegetables.

I can explain the benefits of fresh food compared to processed food.

What am I going to find out?

I will know that processed foods have many added ingredients.

I will be able to make, roll and shape bread dough.

I will be able to make a soup.

Key Vocabulary

Ingredients 

Processed 

Bread 

Gluten 

Knead 

Ferment 

Working as a **Designer**

Design	Make	Evaluate	Apply
I will decide how something will look or how it will work.	I will create something by combining materials or putting parts together.	I will form an opinion of the quality of my creation after careful thought.	I will use my creation in a real life context.

Year 4: Mechanisms

How many ways are there to open a door?

Core content:

Investigate how hinges work.
Select a range of modelling materials and tools.
Make and evaluate hinged products.

Technical vocabulary:

Hinge – a rotating joint that allows movement between two linked objects.

Butt hinge – a hinge that consist of two rectangular leaves connected with a pin, with screw holes to attach the hinge to a surface.

Knuckles – the hollow circular parts at the joint of a hinge through which a pin is passed. The knuckle is often called a loop, joint, node or curl.

Leaf – the portion of a hinge extending from the knuckle which usually revolves around a pin.

Pin – the rod running the length of the hinge. The pin holds the leaves of the hinge together.

Barrel – the part of a butt hinge where the knuckles are connected with a pin.

Concealed hinge – a hinge that is completely hidden when the door or lid of a box is closed.

Net – a two-dimensional shape that can be folded to form a three-dimensional solid.

Connections:

London's *Tower Bridge* uses huge hinges to lift up the road to allow boats to pass on the Thames.

Year 4 Mechanisms
How man ways are there to open a door?

What do I already know?

I can use cutting and joining techniques with a range of materials.

I know how to strengthen and stiffen structures.

I can identify and make simple mechanisms.

What am I going to find out?

I will know types of hinges and their common uses.

I will be able to make a variety of model hinges.

I will be able to make and evaluate a hinged product.

Key Vocabulary

Hinge 

Butt Hinge 

Knuckles 

Leaf 

Pin 

Barrel 

Concealed Hinge 

Net 

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Year 4: Textiles

How do you keep a tea towel from slipping off a hook?

Core content:

Identify the different functions for fastenings.
Learn how to sew a button onto fabric.
Create a solution to the problem of a towel slipping off a hook.

Technical vocabulary:

Shank – a short stem on the underside of a button that allows there to be a gap between the button and the cloth it is attached to.

Burr – a seed container covered in tiny hooks, which attaches to animal fur and clothing, facilitating effective dispersal.

Hook and loop – a fastening system using two sides of material: one covered in hooks and the other covered in loops.

Buckle – a piece of metal at one end of a belt or strap, used to fasten the two ends together.

Fastener – a button, zip or other device for temporarily joining together the parts of things such as clothes.

Raw edges – an unfinished, rough or undecorated edge.

Connections:

George de Mestral
(1907 – 1990)
Swiss electrical engineer and inventor of Velcro©

Year 4 Textiles
How do you keep a tea towel from slipping off a hook?

What do I already know?

I can use a running stitch to attach fabrics.

I can describe the properties of materials.

I can use scissors to cut accurately.

What am I going to find out?

I will know that fastenings have different functions.

I will know that a shank provides a small amount of space between the button and fabric.

I will be able to select appropriate fastenings and attach them to fabric.

I will be able to make a shank for a button.

Key Vocabulary

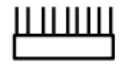
Shank 

Burr 

Hook and loop 

Buckle 

Fastener 

Raw edges 

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Year 4: Structures

Which shapes give a structure stability?

Core content:

Explore which shapes can be used to ensure stability in structures.
Use a range of materials to investigate 3D shapes.
Collaborate on a class geodesic dome structure.

Technical vocabulary:

Structural engineer – designs the force resistance of buildings, bridges and other structures.

Geodesic – curved surfaces made up of geometric shapes and straight lines.

Gravity – the force that attracts objects towards one another, especially the force that makes things fall to the ground.

Truss – a rigid framework constructed from triangles.

Compression – the act of putting pressure on an object from different sides until it gets smaller.

Tension – the state of being stretched tight and stiff.

Connections:

Roma Agrawal
(born 1983)
Indian-British-American
structural engineer

Year 4 Structures
Which shapes will give a structure stability?

What do I already know?

I can increase the rigidity and strength of paper by folding and creasing.

I can name the properties and explain the differences of 2D

What am I going to find out?

I will know that triangles provide stability in a structure.

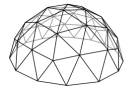
I will know that structural engineers work with architects to ensure structures withstand forces.

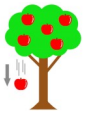
I will be able to make triangles to form and join trusses.

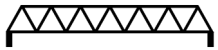
I will be able to identify the forces that affect structures.

Key Vocabulary

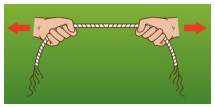
Structural Engineer 

Geodesic 

Gravity 

Truss 

Compression 

Tension 

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Year 4: Electrical Systems
How useful are switches?

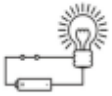
Core content:

Learn how different types of switches work within electrical circuits.
Learn how switches can be used to perform a function in a product.

Technical vocabulary:

Switch – a device for making or breaking the connection in an electrical circuit.

Circuit – a complete path of wires and equipment along which an electric current flows.



Component – one of the parts of an electrical circuit such as a bulb or battery.

Current – the movement of water, air or electricity in a particular direction.

Interruption – an occasion when someone or something stops something from happening for a short period.

Unbroken – continuous with no pauses.

Conductor – a material that allows electrical energy to pass through it.

Multi-purpose – having many different uses.

Connections:

Samuel Bagno (1906 – 1967)
American inventor

Year 4 Electrical Systems
How useful are switches?

What do I already know?

I can name sources of electrical energy,

I can identify common appliances that use electricity.

I can name basic components of an electrical circuit.

What am I going to find out?

I will know what a switch is and how they are used in a range of products.

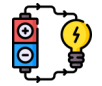
I will be able to use different switches to perform a function in a circuit.

Key Vocabulary

Switch 

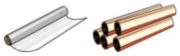
Circuit 

Component 

Current 

Interruption 

Unbroken 

Conductor 

Multi-purpose 

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Year 4: Food and Nutrition
Is cheap food always worse for you?

Core content:

Learn how to make healthy food from low-cost ingredients.
Consider how cheap processed foods will affect health in later life.

Technical vocabulary:

Cheap – to cost little money or to cost less than expected.

Fusion – cooking that is a mixture of different styles.

Texture – the way a surface, substance or piece of cloth feels when you touch it.

Shallow-fry – to cook in a small amount of oil or fat.

Shortening – butter, lard or fat used to make pastry or shortbread, resulting in a crumbly texture.

Fragrant – to have a pleasant or sweet smell.

Connections:

rubbing in

rolling and shaping

slicing

Year 4 Food and Nutrition
Is cheap food always worse for you?

What do I already know?

I know that good nutrition keeps the body healthy.

I can use the claw and bridge methods to cut food safely.

I know why ultra-processed food is unhealthy.

What am I going to find out?

I will know that cheap processed food often contains additives, salt and sugar which makes it less healthy that unprocessed food.

I will be able to peel, grate and chop vegetables to make economical, tasty and healthy food.

Key Vocabulary

Cheap

Fusion

Texture

Shallow-fry

Shortening

Fragrant

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