






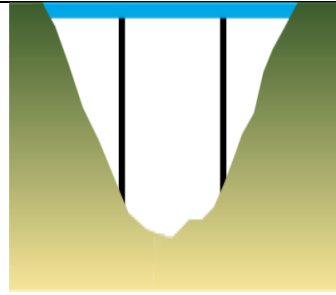
DT – Structures (Bridges)

Topic Overview

In this topic, pupils will research and investigate the different types of bridges used and investigate some of the work of Isambard Kingdom Brunel (1806-1859). Pupils will design a bridge to meet the design brief to provide a crossing to a town spanning 50cm. Additional challenge will be provided through the need for moving parts or support of certain weight loads. Pupils will use a range of resources and tools to create and test their bridge design and evaluate their work at the end of the topic to highlight successes and areas for future improvement.

Key Vocabulary

Word	Definition
Bridge	A structure to cross a river, road or obstacle
Arch bridge	A semi circular structure with abutments at each end
Abutments	Supports that carry the load of the bridge
Hanging/suspension bridge	A bridge that has its roadway suspended from two or more cables and is anchored at the ends
Beam bridge	A rigid horizontal structure that is resting on two piers, one at each end
Cantilever bridge	A bridge built using a cantilever, where it is joined at one end and has supported 'arms'
Bascule bridge	A moveable bridge with an upward swing to provide clearance for boats etc.
Draw bridge	Often referred to as any bridge with a moving part including a bascule bridge
Truss	An assembly of beams or other elements that creates a rigid structure
Junior hacksaw	
Glue gun	
Dowel	
Square section timber	
Sawing block	



Key (sticky) Knowledge – DT

- Pupils will be able to describe the 4 main bridge styles and highlight key features of each.
- Techniques to join wood and card will be established and safe use of these techniques will have been employed.
- Bridge designs will have been assessed and a final design selected.
- The final design will be constructed and evaluated based on the design function, construction and success at meeting individual design briefs.

The focus of this unit is: DESIGN, MAKE, EVALUATE (including Technical Knowledge).

Research existing structures, develop lists of equipment and stages of operation. Evaluate effectiveness of design.



DT – Structures (Shelters)

Topic Overview

In this topic, we will research the requirements of a shelter and its key components and function. Linking to our World War II study in history we will consider air raid shelters and how these were constructed. Pupils will be tasked with designing a waterproof shelter, able to withstand a dropped weight of up to 4kg using range of materials and construction techniques learnt in class.

Key (sticky) Knowledge – DT

Follow a set design brief and objective – to construct a waterproof shelter, able to withstand a dropped force of up to 4kg
 Research shelters and constructions – focus on air raid shelters and how these withstood air raids.

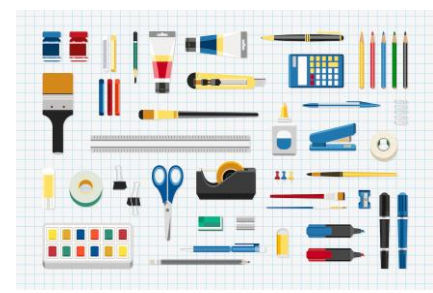
Plan and design different shelters.

Decide on a final design and construct

Evaluate the effectiveness and success based on the design brief

Key Vocabulary

Word	Definition
Shelter	An area protected from natural elements or man made activities
Air raid shelter	Used during the Blitz in WWII to protect families
Morrison Shelter	Table with additional wire mesh
Anderson Shelter	Typical underground or part submerged shelter made with corrugated iron
Underground shelters	Underground train stations and tunnels used as shelters
Waterproof	To reduce or eliminate water accessing something
Support beam	A bar/beam which offers a structure support and strength
Lean to	A style of shelter where one side leans on an object
Joining	Method used to join 2 pieces of wood or paper together
Tools	Range of equipment that may be used including saw, sawing block, glue, cardboard, ruler



The focus of this unit is: DESIGN, MAKE, EVALUATE (including Technical Knowledge).

Research existing shelters and structures, develop lists of equipment and stages of operation. Evaluate effectiveness of design.

DT – Food Hygiene & Cooking (Pizza)

Topic Overview

In this topic, we will design our own pizzas, ensuring they are part of a healthy and balanced diet. Pupils will look at the requirements for a balanced diet and named food groups and will investigate the importance of food hygiene and how to ensure it is met in food production. Pupils will evaluate their designs and ideas and highlight successes and potential improvements in future designs.



KITCHEN SAFETY

FOOD SAFETY

Wash Hands & Kitchen Surfaces

Scrub-A-Dub...
Wash hands for at least 20 seconds, singing the ABC song. Use hot water and soap. Scrub all surfaces.
Always wash:
• Before cooking
• After using the toilet
• After handling raw meat.

A Clean Start...
Wash counter tops with hot soapy water to kill bacteria!

A Safe Bite...
When eating food always use a clean spoon!

Keep Foods Out of the "Danger Zone"

Keep hot foods hot (above 140°F)

Keep cold foods cold (below 40°F)

Some Some...
Cover and refrigerate or freeze leftovers within 2 hours after they are cooked.

Avoid Cross-Contamination
Avoid combining raw meat, seafood, poultry.

Key Vocabulary

Word	Definition
Healthy food plate	A diagram splitting up food groups to allow a healthy diet to be planned
Food hygiene	Being clean around food and food preparation
Hygiene	Being clean e.g. washing your hands
Evaluate	To review something and look for strengths and improvements
Research	Look into something and discover information about it
Calories	A unit of measurement used in food consumption
Food groups	The different categories food is divided into when discussing healthy and balanced diets
Salmonella	A type of bacteria found in eggs and poultry that can be very dangerous
Bacteria	Microscopic germs that carry viruses and lead to food decay

Key (sticky) Knowledge – DT

- The importance of food hygiene
- The stages involved in planning and designing a product
- Evaluating final products
- Ensuring a balanced diet is part of a healthy lifestyle.

- The focus of this unit is:
- Weigh and measure using scales.
- Select and prepare food for a particular purpose.
- Show awareness of a healthy diet.
- Use a range of cooking techniques.
- Know where and how ingredients are grown and processed.
- Prepare food products taking into account the properties of ingredients and sensory characteristics.
- Work safely and hygienically.
- Consider influences of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc

DT – Food Hygiene & Cooking (Cookies/Donuts)

Topic Overview

In this topic we will learn about healthy and unhealthy foods and how to maintain a healthy lifestyle. The children will learn about food hygiene and how to stay safe, ensuring food is cooked thoroughly and simple hygiene rules are followed which help ensure a cleaner and safer cooking environment. Linking with our geography North America study we will consider cookies and donuts and their many variations and how these can be included in a balanced diet.

Key (sticky) Knowledge –

Identify food groups and understand the need for a balanced diet consisting of all food groups.

Research and design cookie and donut flavours and styles and use this to create a cookie or donut design.

Price the cost of the donut and consider costs for mass production

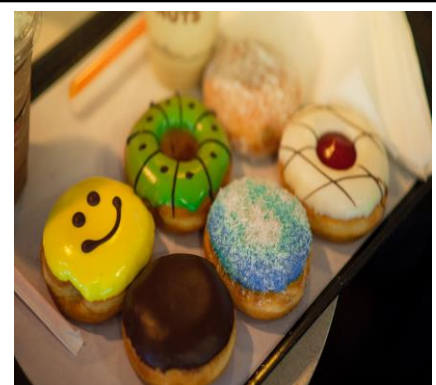
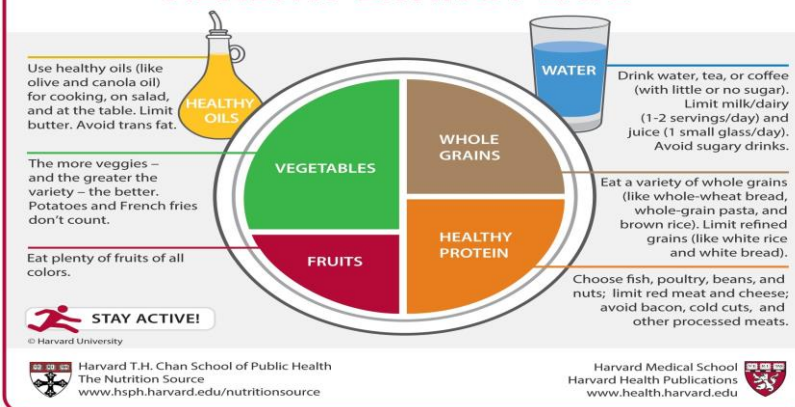
Study food hygiene and ensure rules followed when preparing food.

Key Vocabulary

Word	Definition
Healthy food plate	A diagram splitting up food groups to allow a healthy diet to be planned
Food hygiene	Being clean around food and food preparation
Hygiene	Being clean e.g. washing your hands
Evaluate	To review something and look for strengths and improvements
Research	Look into something and discover information about it
Nutrition	The goodness and value of the food eaten
Calcium	Found in dairy food, it is a nutrient that helps develop strong bones and teeth
Protein	A nutrient that support muscle growth and repair
Carbohydrates	The nutrient that provides energy, found in grains and potatoes
Salmonella	A type of bacteria found in eggs and poultry that can be very dangerous
Bacteria	Microscopic germs that carry viruses and lead to food decay



HEALTHY EATING PLATE



- The focus of this unit is:
- Weigh and measure using scales.
- Select and prepare food for a particular purpose.
- Show awareness of a healthy diet.
- Use a range of cooking techniques.
- Know where and how ingredients are grown and processed.
- Prepare food products taking into account the properties of ingredients and sensory characteristics.
- Work safely and hygienically.
- Consider influences of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc.

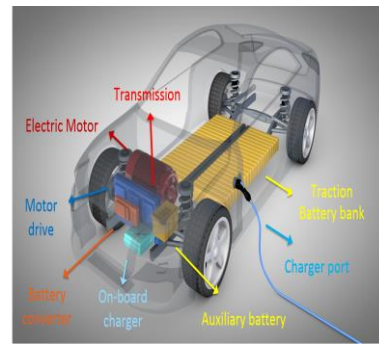
DT – Mechanical and Electrical - Vehicles

Topic Overview

In this topic, pupils will design and construct a moving electrical vehicle. The design will feature the chassis and body work and be powered by a motor and AA batteries. Through the use of accurate measuring, sawing and joining of wood the vehicle should be able to move forward and backwards in a straight line.

Key Vocabulary

Word	Definition
Mechanism	A device or machine for doing something
Aesthetic	Concerned with how beautiful something looks
Frame/chassis	A rigid structure used as a main support
Reinforce	To strengthen with added material
Stability	Keep something firm in position
Axle	A rod or spindle passing through the centre of a wheel
Vehicle	A machine used to transport something
Motor	A machine powered by electricity that supplies motion power for a vehicle
Drive pulley	A pulley that is attached to a power source that when in use puts force on a belt (elastic band)
Components	A part of something e.g. pieces in a Lego set
Wiring	A system of wires providing an electric circuit for a device
Tools	Equipment used to help build the vehicle



Key (sticky) Knowledge –DT

Be accurate with measurements and cutting of wood

Know how to create a series circuit for use on the vehicle

Design and evaluate ideas to ensure confident in task and actions required.

Be able to join wood to create a stable frame
Make the vehicle move forward and backwards and understand how this is possible due to the battery polarity.

The focus of this unit is: DESIGN, MAKE, EVALUATE (including Technical Knowledge).

Design chassis and research car styles to create individual concept, develop lists of equipment and stages of operation. Adapt design and investigate use of gears and pulleys to enable vehicle to move and overcome design/build challenges. Evaluate effectiveness of design.

DT – Mechanical & Electrical - Fairgrounds

Topic Overview

In this topic,

Key Vocabulary

Word	Definition
Mechanism	A device or machine for doing something
Aesthetic	Concerned with how beautiful something looks
Frame	A rigid structure used as a main support
Reinforce	To strengthen with added material
Stability	Keep something firm in position
Axle	A rod or spindle passing through the centre of a wheel

--	--

--	--

--

--