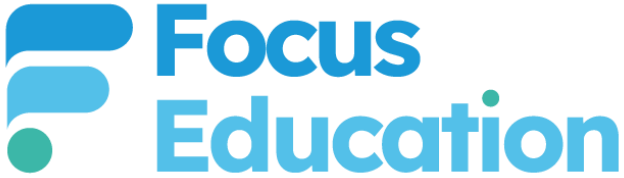
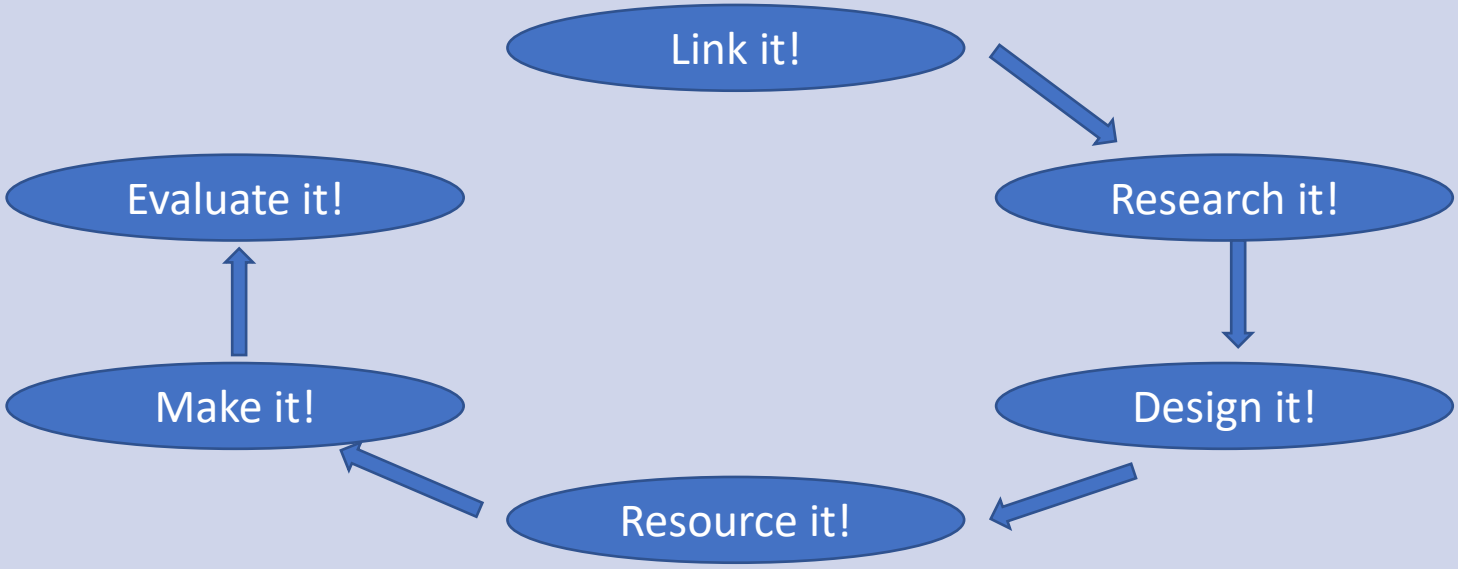
Focus Education

Creating continuity and progression in design and technology



Introduction

- The progression map at the beginning is a recommended way of ensuring pupils' progress from EYFS onwards. It is set out under the following headings: designing; making; evaluating; technical knowledge or food technology.
- The way of working that follows is a suggestion which would help pupils meet the substantive knowledge and disciplinary knowledge outlined.
- Each recommended unit follows the same process, outlined below.
- Additional, or alternative units are suggested at the end of this document.



Focus Education

Progression Map
EYFS to Year 6

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

EYFS and Key Stage 1

	EYFS	Year 1	Year 2
Designing	• Think of what they want to make with a given set of resources • Begin to be aware that the resources they have will limit what they can make • Talk to an adult about what they want to make • Make decisions about how to approach a task before starting • Start to choose the resources they need to make a product	• Begin to research existing products before designing their own • When researching, find out how products work and which materials have been used. • Use own ideas to design something • Describe how their own idea works • Design a product which moves • Explain to someone else how they want to make their product • Make a simple plan before making • Begin to develop their own ideas through drawings, and where appropriate, make templates or mock ups of their initial ideas using ICT (if needed).	• Begin to develop their design ideas using research and discussion with peers and adults. • Understand the purpose of their product • Have an identified target group in mind when designing and making a simple product. • Think of an idea and plan what to do next • Explain why they have chosen specific textiles or materials • Draw a simple design and label the parts of their product • Develop their own ideas through drawings, and where appropriate, make templates or mock ups of their initial ideas using ICT (if needed).

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

EYFS and Key Stage 1

	EYFS	Year 1	Year 2
Making	• Handle equipment safely • Explore a variety of materials, tools and techniques, for example know how lego joins together • Begin to appreciate that glue does not work on all materials • Show increasing levels of independence in the making stage	• Use own ideas to make something • Assemble and join materials using a variety of methods • Begin to build structures, exploring how they can be made stronger, stiffer and more stable. • Explore the use of different mechanisms (for example sliders, wheels and axles) in their products. • With help, measure, mark out and cut a range of materials. • Use tools safely (e.g. scissors and a hole punch). • Begin to assemble, join and combine materials and components together using a variety of temporary methods (e.g. glue or sellotape). • Begin to use simple finishing techniques to improve the appearance of their products.	• Choose tools and materials and explain why they have chosen them • Join materials and components in different ways, including glue, sellotape and masking tape. • Can identify and name a simple selection of hand tools (e.g. scissors). • Carry out finishing techniques that have been modelled by the teacher • Use simple sewing techniques including cutting, shaping and joining fabric to make a simple product. • Build structures, exploring how they can be made stronger, stiffer and more stable. • With help, measure, cut and score with some accuracy. • Start to assemble, join and combine materials in order to make a product. • Start to choose and use appropriate finishing techniques based on their own ideas.

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

EYFS and Key Stage 1

	EYFS	Year 1	Year 2
Evaluating	• Be prepared to stop to check how well their product is developing • Changing strategy as needed when they know their product is not turning out the way they wanted • Be able to explain to others how they made their product and be able to offer a simple explanation as to how they would improve on it	• Describe how something works • Explain what works well and not so well in the model they have made • Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make.	• Evaluate their work against their design criteria. • Look at a range of existing products and what they like and dislike about products and why. • Start to evaluate their products as they are developed, identifying strengths and possible changes they might make. • With confidence talk about their ideas, saying what they like and dislike about their product.
Technical Knowledge	• Think of a range of ways of joining two resources together • Begin to use a wider range of tools carefully and skilfully • Begin to understand which materials are suitable for certain tasks.	• Make their own model stronger • Make a product that has at least one moving part e.g. wind/ simple motor powered boat	• Make a model stronger and more stable • Use wheels and axles, when appropriate to do so • Know how simple mechanisms work e.g. sliders and linkages • Make a product that has at least two moving parts.

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

EYFS and Key Stage 1

	EYFS	Year 1	Year 2
Food Technology	• Know why it is important to wash their hands before handling food • Begin to understand which foods go together and which do not • Begin to name certain foods such as sandwich, samosas etc.	• Cut food safely • Know that all food comes from either plants or animals. • Use basic food handling, hygiene practices and personal hygiene • Know how to prepare simple dishes safely and hygienically without using a heat source. • Know how to use techniques such as cutting, peeling and grating.	• Know that everyone should eat at least five portions of fruit and vegetables each day. • Demonstrate how to prepare simple dishes safely and hygienically without using a heat source. • Demonstrate how to use techniques such as cutting, peeling and grating. • Weigh ingredients to use in a recipe • Describe the ingredients used when making a dish or cake • Can talk about which food is healthy and which is not • Follow safe procedures for food safety and hygiene.

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

Lower Key Stage 2

	Year 3	Year 4
Designing	• Research independently and generate some ideas before thinking about resources. • Consider the purpose and audience for their product • Order the main stages of making a product, continually referring to purpose and establish criteria for a successful product. • Prove that a design meets the specification • Design a product and make sure that it meets the design criteria including looking attractive (if needed) • Draw annotated designs with labels that detail their material choices and suitability of the given materials • Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products. • Start to understand whether their products can be recycled or reused. • When planning, explain their choices of materials and components, including function. • Develop their own ideas through drawings, making templates or mock ups of their initial ideas using ICT (if needed).	• Research as a matter of course before considering designing a product. • Use ideas from other people when designing e.g. creating a mood board of existing products • Confidently make labelled drawings from different views, showing specific features. • Produce a plan and explain the use of materials, equipment and processes • Persevere and adapt work when original ideas do not work • If the first attempt fails, identify strengths and future areas for development. • Communicate ideas through annotated sketches that show different viewpoints of the product • Begin to be very familiar with different inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products.

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

Lower Key Stage 2

	Year 3	Year 4
Making	• Follow a step-by-step plan, choosing the right equipment and materials • Select the most appropriate tools and techniques for a given task • Work accurately to measure, mark out, make cuts, score, make holes and assemble components with more accuracy. • Start to work safely and accurately with a range of simple tools. • Choose finishing techniques to improve the appearance of their products using a range of equipment including ICT • Start to understand that mechanical systems (such as levers and linkages) create movement. • Start to think about their ideas as they make their product and be willing to change things if they help them to improve their work. • Start to measure, tape or pin, cut and join fabric with some accuracy.	• Know which tools to use for a particular task and show knowledge of handling the tool accurately and safely. • Know which material is likely to give the best outcome based on its properties • Mark, measure and cut accurately a range of materials using appropriate tools, equipment and techniques. • Start to join and combine materials and components accurately in temporary and permanent ways. • Sew, weave or knit using a range of stitches • Show high levels of perseverance when things do not go as they would wish in the first instance. • Start to understand the mechanical and electrical systems have an input, process and output. • Know how mechanical systems (such as pulleys or gears) create movement. • Know how simple electrical circuit and components can be used to create functional products. • Understand how to reinforce and strengthen a 3D framework. • Begin to use finishing techniques to strengthen and improve their appearance of their product using a range of equipment, including ICT

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

Lower Key Stage 2

	Year 3	Year 4
Evaluating	• Explain how to improve a finished model • Know why a model has or has not been successful • Evaluate their product against their original design criteria (e.g. how well it meets its intended purpose). • Begin to disassemble and evaluate familiar products and consider the views of others to improve them. • Evaluate the key designs of individuals in DT has helped shaped the world.	• Evaluate and suggest improvements for designs • Evaluate products for both their purpose and appearance • Evaluate their own and others work • Evaluate their product, carrying out appropriate tests. • Evaluate their product both during and at the end of the assignment. • Present a product in an interesting way • Be able to disassemble and evaluate familiar products and consider the views of others to improve them.
Technical Knowledge	• Know how to strengthen a product by stiffening a given part or reinforce a part of the structure • Use a simple IT program within the design • Create a product that incorporates a pulley mechanism.	• Link scientific knowledge by using lights, switches or buzzers • Use IT where appropriate to add to the quality of the product • Create a product that incorporates at least one lever. • Use appropriate sewing techniques.

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

Lower Key Stage 2

	Year 3	Year 4
Food Technology	• Describe how food ingredients come together • Weigh out ingredients and follow a given recipe to create a dish • Know when food is ready for harvesting • Demonstrate hygienic food preparation • Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of heat source. • Begin to understand how to use a range of techniques, such as peeling, chopping, slicing, gracing, mixing, spreading, kneading and baking. • Begin to know that to be active and healthy, food and drink are needed to provide energy for the body.	• Bring a creative element to the food product being designed • Know which season various foods are available for harvesting • Recognise safe practices in the kitchen and can identify hazards e.g. hazards when using an oven • Know how to use a range of techniques, such as peeling, chopping, slicing, gracing, mixing, spreading, kneading and baking. • know that to be active and healthy, food and drink are needed to provide energy for the body.

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

Upper Key Stage 2

	Year 5	Year 6
Designing	• Competently research products similar to the one they are intending to design and evaluate strengths and weakness to be incorporated into their own design. • Research and use ICT where appropriate • Design, with a range of initial ideas, after collecting information from investigating existing products • Produce a detailed, step-by-step plan • Explain how a product will appeal to a specific audience and how it meets the purpose • Create annotated 3D designs of their design on isometric or squared paper from a range of viewpoints. • With growing confidence, apply a range of finishing techniques including those from art and design. • Start to appreciate how much the product costs to make.	• When researching, be competent in discriminating as to what would be and would not be helpful for their intended product. • Use market research of existing products to inform their design • Follow and refine original plans, justifying it in a convincing way • Draw detailed 3D designs using exploded diagrams or cross sectional drawing where appropriate to display finer details • Show that culture and society is considered in plans and design specification • Show thought has been given to materials relating to recycling and sustainability. • Know how much products cost and make choices accordingly.

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

Upper Key Stage 2

	Year 5	Year 6
Making	• Name and use a range of tools and equipment competently • Select appropriate materials, tools and technique (e.g. cutting, shaping, joining and finishing) accurately. • Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. • Incorporate mechanical systems (such as pulleys or gears) to create movement in their products. • Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products. • Use finishing techniques to strengthen and improve the appearance of their products using a range of equipment including ICT. • Make a prototype before making a final version • Carry out finishing techniques to enhance the appearance and function of their product	• Confidently select appropriate tools, materials, components and techniques and use them efficiently. • Know how to use any tool correctly and safely • Know what each tool is used for • Explain why a specific tool is best for a specific action • Make modifications as they go along and explain their reasons. • Construct products using permanent joining techniques. • Use mechanical systems such as pulleys and gears competently to create movement in their products. • Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products. • Use finishing techniques to strengthen and improve the appearance of their products using a range of equipment including ICT. • Pin, sew and stitch materials together to create a product

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

Upper Key Stage 2

	Year 5	Year 6
Evaluating	• Evaluate a product against original design specifications and by carrying out tests. • Suggest alternative plans; outlining the positive features and drawbacks • Evaluate appearance and function against original criteria • Begin to evaluate their product personally and seek evaluation from others.	• Test and evaluate designed products with specified audience where possible • Explain how products should be stored and give reasons • Evaluate product against clear criteria • Evaluate their work both during and at the end of the assignment. • Record their evaluations using drawing with labels.
Technical Knowledge	• Suggest alternative plans; outlining the positive features and drawbacks • Evaluate appearance and function against original criteria • Create a product that incorporates gears.	• Know which IT product would further enhance a specific product • Use knowledge to improve a made product by strengthening, stiffening or reinforcing • Use electrical systems correctly and accurately to enhance a given product • Know when a product they have made is improved by either the use of pulleys, levers or gears.

DESIGN TECHNOLOGY: DISCIPLINARY KNOWLEDGE

Upper Key Stage 2

	Year 5	Year 6
Food Technology	• Be both hygienic and safe in the kitchen • Know how to prepare a meal by collecting the ingredients in the first place • Weigh and measure accurately (timings, dry ingredients and liquids) • Begin to understand that seasons may affect the food available. • Understand how food is processed into ingredients that can be eaten or used in cooking. • Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically, including where appropriate, the use of a heat source. • Begin to understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.	• Explain how food ingredients should be stored and give reasons • Work within a budget to create a meal • Understand the difference between a savoury and sweet dish • Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically, including where appropriate, the use of a heat source. • Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.

DT - stage by stage development of product

Stage 1:

Link it

This is a stage where we consider prior knowledge, links to personal experience or links to another subject. It is an important stage in relation to long term memory.

Stage 2:

Evaluate design brief

This is where a group of children talk to each other and ensure that they have clarity about their task.

Stage 3:

Research it

This where children are expected to research to find similar products. This includes food.

Stage 4:

Design it & Gather Resources

Children should start with an initial design and check that it meets the criteria. They should then ensure that they have gathered the resources need to make their product

Stage 5:

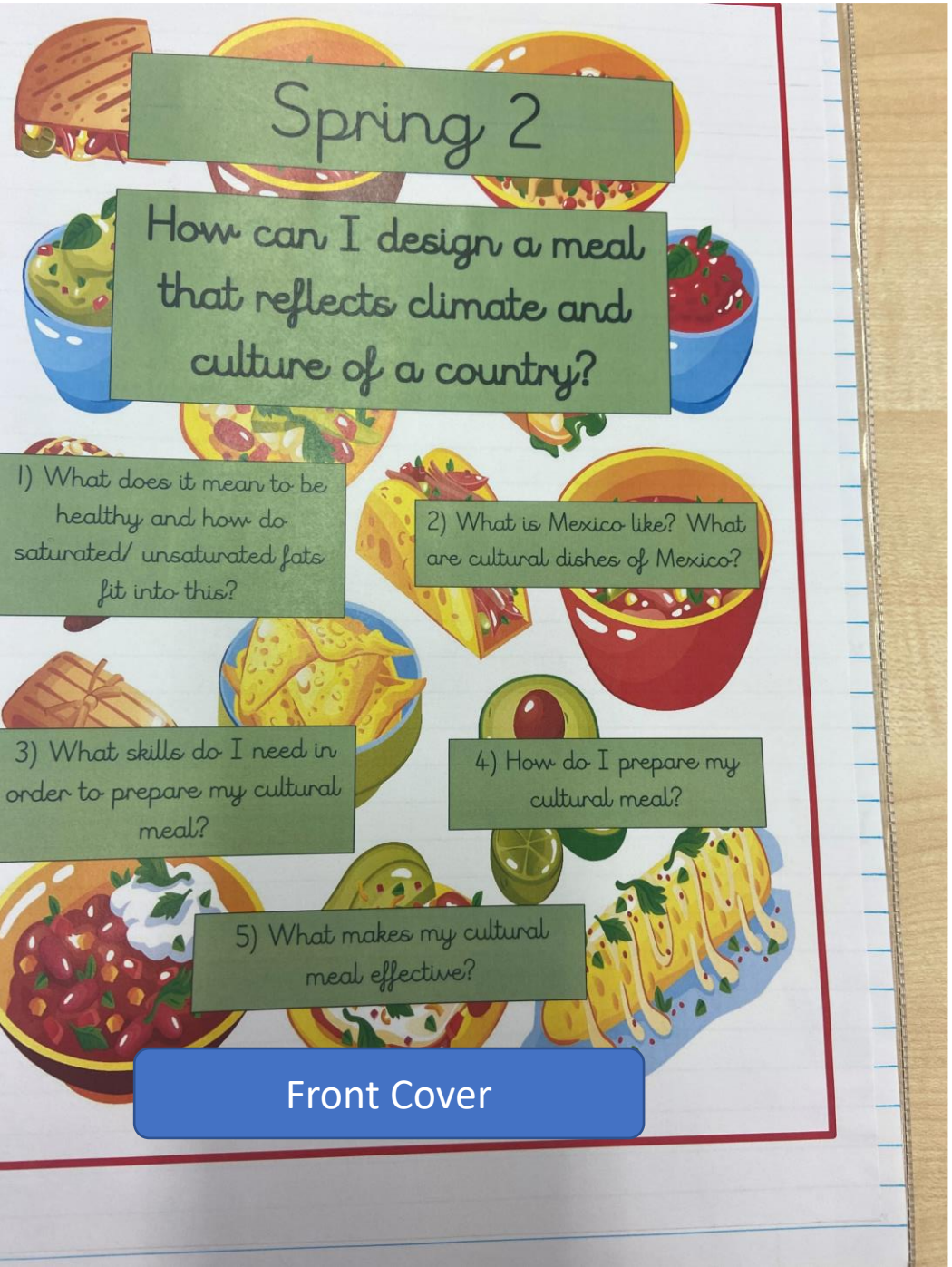
Make it

This is the stage where the children make their product. They should follow their design unless they clearly see that they need to amend it.

Stage 6:

Evaluate it

As a group, in the first instance they should consider how well their product meets the design brief and make suggestions as to what they may do differently if they were to do this again,



Front Cover

Expectations in terms of pupils' recording of a Food Technology Unit

Knowledge Organiser – Design and Technology

Food

Composite Question: How can I design a meal that reflects climate and culture of a country?

Component Questions Leading to Key Knowledge
What does it mean to be healthy and how do saturated/ unsaturated fats fit into this?
What is Mexico like? What are cultural dishes of Mexico?
What skills do I need in order to prepare my cultural meal?
How do I prepare my cultural meal?
What makes my cultural meal effective?

Vocabulary	
Cuisine	A style of cooking shared by a group of people. It is an important part of culture or way of life.
Savoury	Food that has a salty or spicy flavour rather than a sweet one.
Carbohydrates	Carbohydrates are broken down by the body into simple sugars. These sugars circulate in the bloodstream and are used by the body's cells for energy.

What do I already know?	Conceptual Understanding
Taccos Nachos	I know how to design a cultural meal using cooking books I know how to make a range of cuisines. I know how to evaluate what the consumer likes and dislik I know how to use a wide range of advanced range of co I know how to prepare and cook food from all over the w come from. I know what starchy foods are and that they contain carb

Design Make Evaluate Technical Knowledge Healthy Eating

Knowledge Organiser

Monday 27th March 2023

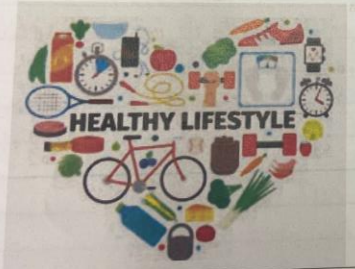
Composite Question: How can I design a meal that reflects climate and culture of a country?

Component Question: What does it mean to be healthy and how do saturated/ unsaturated fats fit into this?

LO To revise what is meant by a balanced diet and to understand the role that saturated and unsaturated fats have in a balanced diet.

Key concept: Product Research

Key vocab: diet, balanced, health, exercise, hygiene, sleep, nutrients, saturated fat, unsaturated fat, oils, salt, sugar, fibre, protein, fruit, vegetables, 5 a day	P	T
I have revised the importance of a balanced diet as part of a healthy lifestyle		✓
I have classified different foods in to their nutrient groups by placing them on the eat well plate		✓
I have researched saturated and unsaturated fats		✓
I have answered questions about saturated and unsaturated fats to record my ideas about their role in a balanced diet		✓



What is a healthy lifestyle?

A healthy lifestyle means trying to make the right choices to enable us to be as healthy as possible. Having a balanced diet is an important part of a healthy lifestyle because we need to make sure we still have enough unhealthy and healthy foods. For a healthy lifestyle, it is important to get enough sleep since it helps our bodies regenerate for the following day, and without it, our bodies are likely to shut down.

Link it!

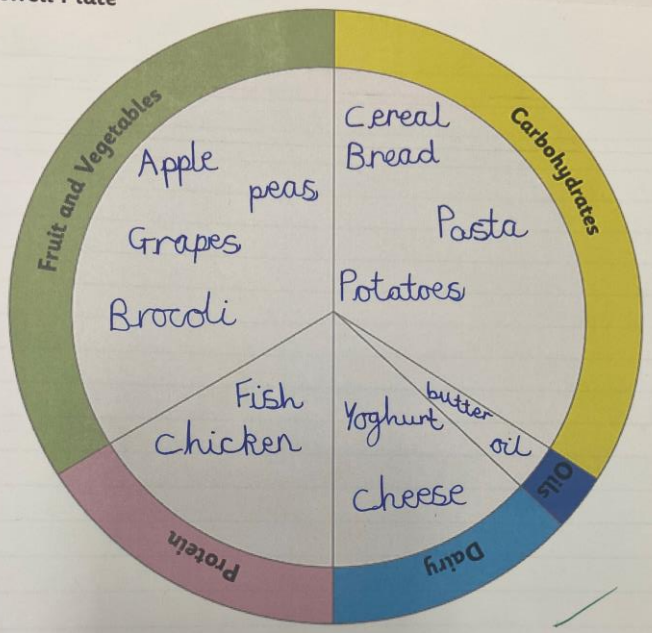
What is a balanced diet?

A balanced diet is when you have the right amount of each type of food. A balanced diet should have ⅓ of carbohydrates, ⅓ of fruits and vegetables and ⅓ of the other third split between oils and spreads, proteins and dairies. The eat well plate has different sections for nutrient groups. These sections show each part of your diet.

What are saturated and unsaturated fats?

A small amount of fat is part of a healthy balanced diet because fat helps the body absorb vitamin A, vitamin D and vitamin E. The two main types of fat found in foods are saturated and unsaturated fats. Foods which e high amounts of saturated fat include: t and dairy products, as well as some plant ls, such as palm oil and corconut oil. ing to much saturated fat can cause a e of bad LDL cholesterol in your blood, which increase the risk of heart disease and stroke. e should try eat foods with unsaturated in it because it can reduce the risk of t disease. Unsaturated fat is found in oils plants, and fish.

Eatwell Plate



High Sugar

Chocolate

Crisps

Link it!

Monday 27th March - Friday 31st March 2023

How can I design a meal that reflects climate and culture of a country?

What is Mexico like? What are cultural dishes of Mexico?
What skills do I need in order to prepare my cultural meal?
How do I prepare my cultural meal?
What makes my cultural meal effective?

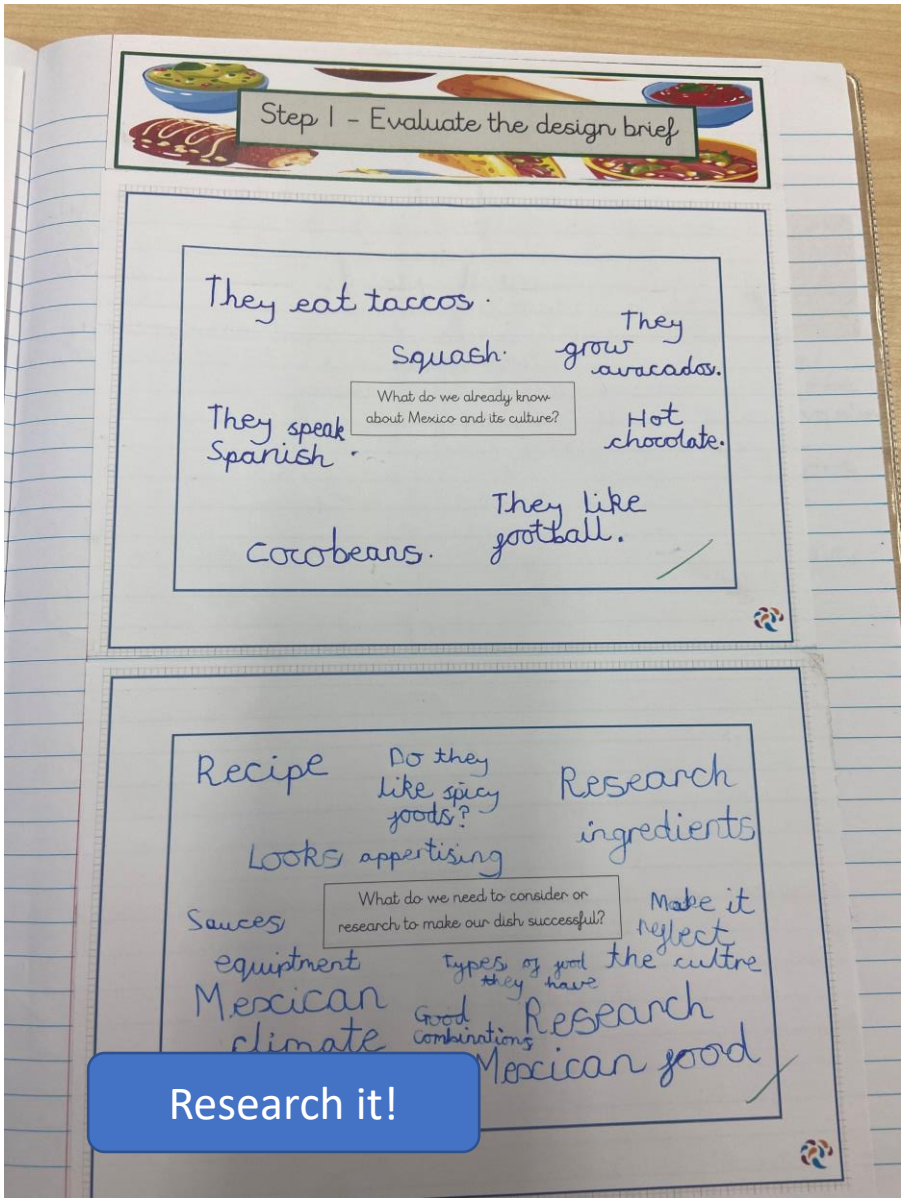
	P	T
Key vocab: Mexico, Mexican, recipe, culture, food, festival, ingredient, combine, flavour, texture, taste, fajitas, enchiladas, guacamole, pozole, chilaquiles, tamales.		
I have evaluated the design brief.	✓	✓
I have explored what Mexico is like and have gained an understanding of its culture.	✓	✓
I have researched different Mexican foods and the ingredients that they use.	✓	✓
I have tasted different Mexican foods.	✓	✓
I have developed different preparation and cooking skills.	✓	
I have outlined the steps I need to take to create my dish.		
I have used a variety of ingredients to create a meal that reflects the culture of another country.		
I have analysed, evaluated and suggested improvements to my work and the work of my peers.		

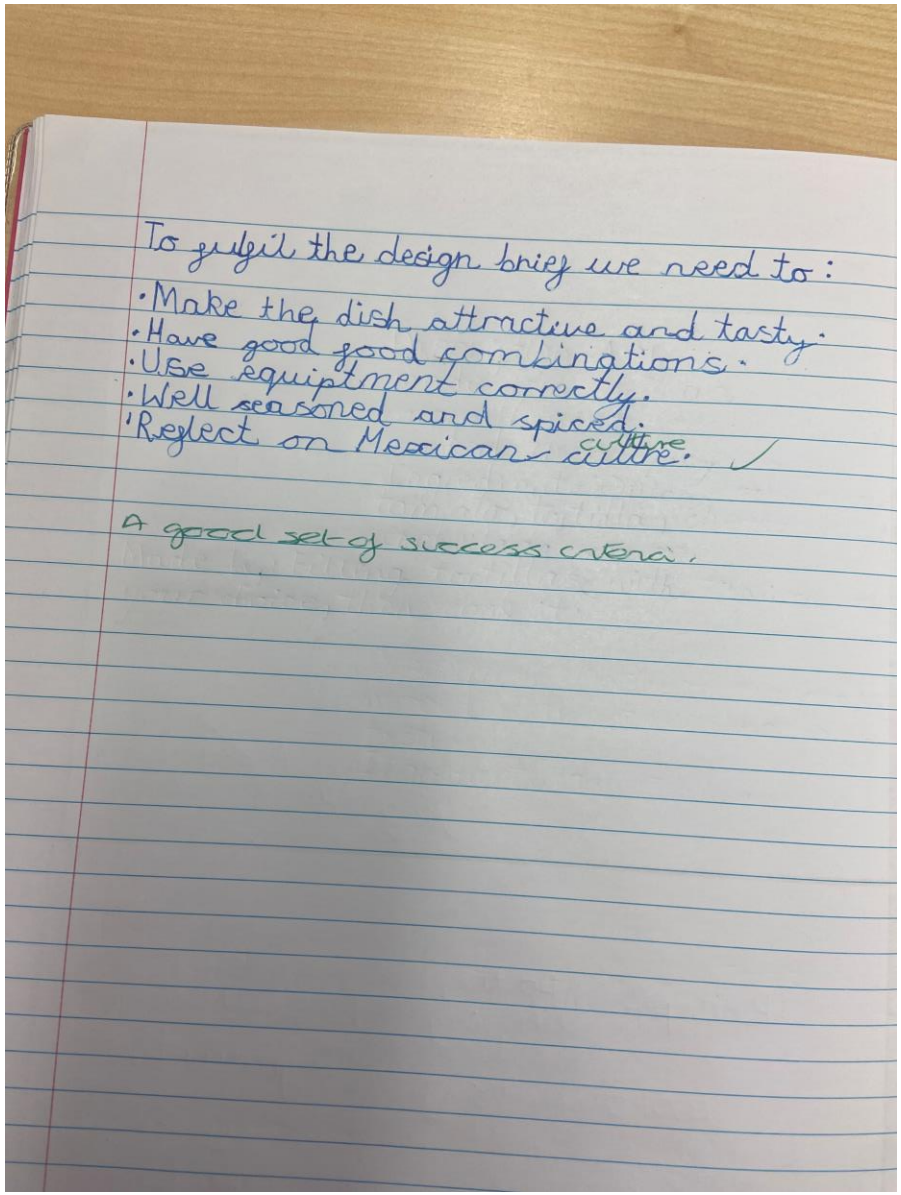
Year 6 Spring Design Brief

Design, make and evaluate a healthy dish that reflects the culture and climate of another country.

It must:

- Be healthy
- Use a range of ingredients
- Reflect the culture and climate of the country
- Be made using a range of techniques and skills from Y1-Y6


Step 1 - Evaluate the design brief
What do we already know about Mexico and its culture?
They eat taccos.
Squash.
They grow avocados.
They speak Spanish.
Hot chocolate.
They like football.
Cocobeans.
What do we need to consider or research to make our dish successful?
Recipe
Do they like spicy foods?
Research ingredients
Looks appetising
Sauces
Make it reflect the culture
equipment
Types of food they have
Mexican climate
Good combinations
Research Mexican food
Research it!


To fulfil the design brief we need to:
• Make the dish attractive and tasty.
• Have good food combinations.
• Use equipment correctly.
• Well seasoned and spiced.
• Reflect on Mexican culture.
A good set of success criteria.

Step 3 - Research Mexican Culture and Climate

Mexico:

Population: 126.7million
Capital city: Mexico City
Language: Spanish
Religion: Mexico does not have an official religion, however, Roman Catholicism is the dominant faith and deeply culturally pervasive.
Climate: Tropical with high temperatures throughout the year. Dry and rainy seasons. Northern and central parts are arid and semi arid.
Crops grown: Maize, coffee, sugar cane, beans, tomatoes, chillies, peppers, avocado. Also produce cacao, pineapple, papayas, mangoes, bananas.

Research it!

Step 4 - Research Mexican Food

Enchiladas

Description: A Mexican dish that is made from tortillas wrapped around meat or cheese, and cooked in a spicy sauce.
Ingredients: Onion, sour cream, tomato, tortilla, cheese, chicken, enchilada sauce.
Made by: Filling tortillas with toppings of your choice, then cook it.

Guacamole

Description: Mashed, raw avocados mixed with other ingredients to taste.
Ingredients: tomatoes, avocado, onion.

From my research, I found out that guacamole is made from avocados. The food in Mexico is very nice.

~~which foods would you like to try? why?~~

I would ~~take~~ like to try enchiladas since they look nice.

Mexican Food Research – Tasting

Food	Description	Main Ingredients	Taste	Texture	Opinion
Wheat tortilla	Soft strong thin	wheat	Plain	Flat	5/10
Whole wheat tortilla	Brown Spotty	wheat	Plain	Bumpy	5/10
Corn Tortilla	yellow Flat	corn	Plain	Smooth	5/10
Taco	Dark yellow Thick Sharp	maize	Plain	Sharp	8.5
Salsa	Red Bumpy	Tomatoes- Salt	Tomatoe taste	Bumpy	9/1
Guacamole	Textured Green	Avacado	Thick	Soft	7/10
Sour cream	Milky Sour	Cream	Sour	Soft	6/10
Refried beans					
Cumin	Brown	~~Eggs~~ not-sure	Curry taste	powdery	8/
Smoked paprika	Dark red	Chilli	Smoky	powdery	5/

Design it!

A difference I noticed between the different tortillas was the textures and thickness. I liked the tacco because it is harder than the others, and has more taste. An ingredient I will use in my fajita is peppers because it will add flavour and a crunch. To make my fajita more flavoured, I will add some cumin.

As part of our research into Mexican food, we tasted some different Mexican foods to evaluate their taste and textures and to help us select ingredients for our Mexican dish.

Design it!

Corn Tortillas

Ingredients

400g Maize meal, 350g water, ½ tsp salt

Method

STEP 1

Put the maize meal in a large bowl, make a well in the middle and add 350g water and ½ tsp salt. Bring together with your hands or a spatula until a dough forms, then knead in the bowl briefly until smooth and well combined. (As there's no gluten in the dough, there's no need to stretch or knead it on your work surface.) If the dough feels sticky, sprinkle over a little more meal, or if it cracks when you fold it, add a splash more water. The more you work the dough, the less gritty it will feel. Cover with a clean tea towel and leave to rest for 10 mins.

STEP 2

Divide the dough into 20 equal pieces (about 40g each) and roll into balls between your palms. If you have a tortilla press, press each ball between two squares of baking parchment until 2mm thick and 12cm in diameter. Alternatively, roll the dough balls out between two sheets of baking parchment until 2mm thick, then use a 12cm bowl, plate or pastry cutter as a template to cut out the tortillas. Set the tortillas aside and cover with a clean tea towel or sheet of baking parchment to prevent them from drying out while you make the rest. Re-roll any offcuts and press or cut these into tortillas, too.

STEP 3

Heat a dry, non-stick frying pan over a medium-high heat and fry the tortillas for 1 min until lightly golden and slightly charred in spots. Flip over with a fish slice or tongs and cook on the other side for 1 min more. Wrap in foil, then a tea towel to keep warm while you cook the rest. *Will keep, wrapped and in an airtight container in the fridge, for up to two days.*

Resource it!

Ingredients:
- Peppers - Sliced thinly
- Oil - 1-2 tbsp
- Tomatoes - cut into halves
- Onions - Sliced into small pieces
- Cumin - ½ tsp
- Garlic - ½ tsp
- Tortilla
- Sour cream
- Cheese

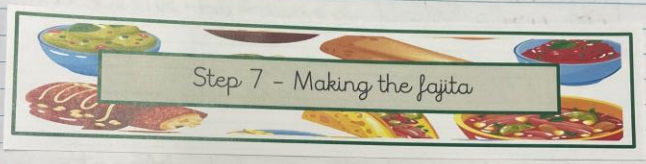
Equipment:
- Bowl
- Knife
- Chopping board
- Frying pan
- Wooden spoon
- Cheese grater

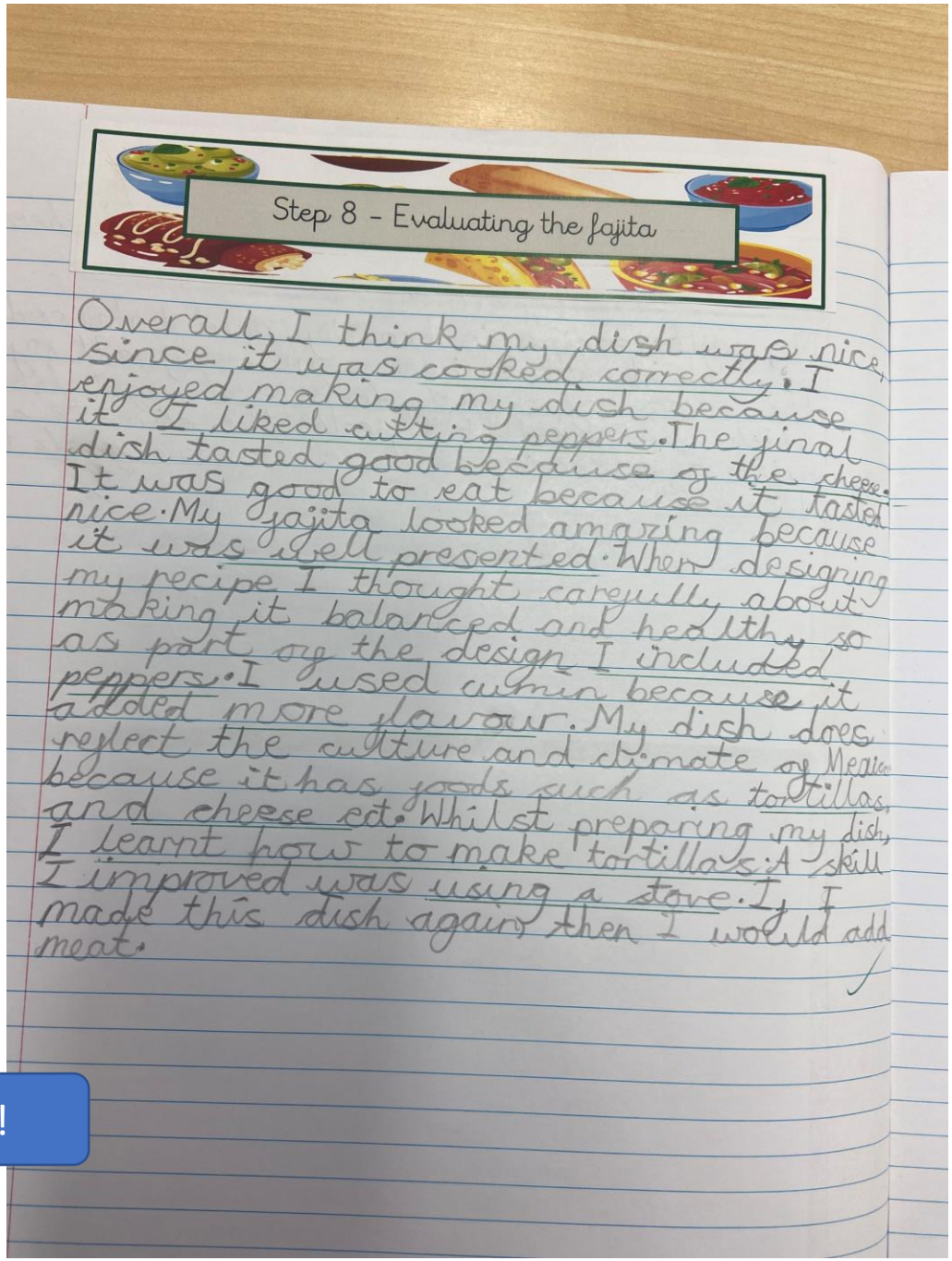
Method:
1: Put the peppers, onion and garlic in a bowl, and mix together with oil.
2: Heat a large frying pan until hot. Add the vegetable mixture and cook for 3-4 minutes before stirring.
3: Stir in the cumin and tomatoes and cook for one minute.
4: Remove from heat.
5: To assemble the fajitas, warm the tortillas according to packet instructions and place on a board.
6: Spoon the filling into each

Make it!

tortilla, topped with sour cream and cheese and roll up.

My fajita recipe is healthy and balanced because it contains a mix of all of the mix of carbohydrates and vegetables which you need. It reflectes the climate and cultre of mexico because it uses foods they use alot.




Step 8 - Evaluating the fajita
Overall, I think my dish was nice, since it was cooked correctly. I enjoyed making my dish because it I liked cutting peppers. The final dish tasted good because of the cheese. It was good to eat because it tasted nice. My fajita looked amazing because it was well presented. When designing my recipe I thought carefully about making it balanced and healthy so as part of the design I included peppers. I used cumin because it added more flavour. My dish does reflect the culture and climate of Mexico because it has foods such as tortillas and cheese ect. Whilst preparing my dish, I learnt how to make tortillas. A skill I improved was using a stove. If I made this dish again then I would add meat.

Evaluate it!

Focus Education

Overview of Suggested Activities

DT Activities
Driven by knowledge and skills breakdown and, if appropriate, looking for natural links with Science, History or Geography (but not compulsory)

	Food Technology	Autumn	Spring	Summer
Year 1	• Design and make a healthy sandwich • Research what is and is not healthy	**Textiles (join by glue):** Assembling and joining using glue associated with the school and Rochdale e.g. logos	**Mechanisms (one moving part):** Create a simple pop up toy using different materials incorporating the use of a slider – (textiles, junk material and card)	**Structure (axle):** Create a swing for a play person which includes a moving part making use of stiff card incorporating an axle
Year 2	• Make a pizza • Put on ingredients that they know is healthy (link with healthy body in science)	**Structures (tall and stable):** Create a tall structure of at least 30cm (something that looks aesthetically pleasing having explored tall buildings in London) using a range of straws, junk material, card	**Textiles (join by sewing) and Structures (stable):** Create a Kenyan traditional village home with a textile roof which incorporates an African style design (which includes some sewing) and is aesthetically pleasing. Base made of a malleable material e.g. clay, plasticine	**Mechanisms (axle and wheels):** Create a moving vehicle with axles and wheels – links to historical unit on transport and reflects transport through the ages

DT Activities
Driven by knowledge and skills breakdown and, if appropriate, looking for natural links with Science, History or Geography (but not compulsory)

	Food technology	Autumn	Spring	Summer
Year 3	• Make scones or a cup cake • If making a cup cake, design it in the first instance	**Textiles (measuring and creative):** Create a weaving loom to produce a A4 floor mat which incorporates a range of textiles and textures	**Structures (stable and creative)** Create an aesthetically pleasing structure specifically for the town of Rochdale taking account of large structures such as The Angel of the North. Made from construction kits e.g Meccano	**Mechanisms (pulley):** Create a mechanism for loading objects onto a boat which incorporates a pulley system (lifting 1 kg) - links to geography unit of rivers
Year 4	• Prepare afternoon tea for 4 guests (which could include your friends but has at least one adult involved)	**Mechanisms (lever):** Create a Roman weapon to propel a marble one metre which is operated by a lever system	**Textiles (Running Stitch)** Create a A4 personal flag for the opening ceremony of the Ancient Greek Olympics which incorporates a running stitch	**Structure** **(incorporating a simple electrical circuit):** Create an electrical torch which incorporates changing colours e.g. kaleidoscope

DT Activities
Driven by knowledge and skills breakdown and, if appropriate, looking for natural links with Science, History or Geography (but not compulsory)

	Food Technology	Autumn	Spring	Summer
Year 5	• Design and make an apple (or fruit) crumble. • Pupils must work out which ingredients they need, buy the ingredients and cost it	**Structures (use of recycled materials) –** Create a structure including a prototype to reflect an aspect of European life which could become a European landmark out of recycled materials	**Textiles (applique and at least 3 different stitches):** Taking account of the Bayeux Tapestry create a textile product which tells a story and incorporates fabric sewn onto fabric (applique) and stitch detail	**Mechanisms (gears):** Create a water mill system for a developing country which incorporates gears and links to Fairtrade or Create a moving (using pneumatics) toy
Year 6	• Prepare a Sunday lunchtime meal in the tradition of Sunday lunches in the past (meat, roast potatoes, vegetables, etc.) • Pupils must work out which ingredients they need, buy the ingredients and cost it	**Mechanisms (Applying previous knowledge of axles, sliders, wheels, pulleys, levers and gears):** Create a vehicle capable of moving over different terrain which incorporates more than one mechanical system	**Structure and Textiles (Stable and appropriate for setting):** Create a camouflaged nomadic tent that would a suitable for a desert incorporating a stable structure and a range of joining techniques	**Mechanisms (a complex electrical circuit with multiple components):** Create a traffic light system that involves the use of IT

Focus Education

Key Stage 1 Plans

Long-term overview for Design Technology

YEAR 1

How can use textiles to make a logo related to our locality or school?

Find out about locality or school and explore initial ideas

Design an initial idea, which focuses on gluing different textiles

Gather resources and make the product

Evaluate the final product against the original brief

Designing	Making	Evaluating
• Begin to research existing products before designing their own • Use own ideas to design something and be prepared to describe how their own idea works • Begin to develop their own ideas through drawings, and where appropriate, make templates or mock ups	• Assemble and join materials using a variety of methods • With help, measure, mark out and cut a range of materials. • Use tools safely (e.g. scissors and a hole punch). • Begin to assemble, join and combine materials and components together using a variety of temporary methods (e.g. glue or sellotape). • Begin to use simple finishing techniques to improve the appearance of their products.	• Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make.

How can use textiles to make a logo related to our locality or school?

Stage 1: Link it

Ask children to think of times where they have seen a coat of arms or remind them of the school badge.

Stage 2: Research it

Children should find out more about the motif used in the locality (town or city) and also be familiar with the school badge.
They should also find out which materials glue together and find out which glue works best.

Stage 3: Design it

Children should then design a logo that is linked to their school or locality. They need to ensure that the design meets the criteria and that it is something that can be made.

Stage 4: Resource it

Children need to gather the materials they need to make the logo. They may need to make adjustments along the way, if the materials they need are not available.

Stage 5: Make it

Children should then move to the making stage. They need to demonstrate competency by measuring the materials, cutting the materials accurately, and gluing the materials together.

Stage 6: Evaluate it

Children should then consider how successful their logo is, taking account of the original brief. They may use a standard evaluation sheet for this. One is attached as Appendix 1 at the end of this document.

Long-term overview for Design Technology

YEAR 1

How can we create a simple pop-up toy, similar to one that children may have played with in the past?

Find out about toys in the past, especially those before batteries, etc.

Design an initial idea, which has one moving part

Ensure that the moving part is strong enough when the making stage begins

Evaluate the final product against the original brief

Designing

- Begin to research existing products before designing their own
- When researching, find out how products work and which materials have been used.
- Design a product which moves
- Explain to someone else how they want to make their product
- Make a simple plan before making
- Begin to develop their own ideas through drawings, and where appropriate, make templates or mock ups

Making

- Begin to build structures, exploring how they can be made stronger, stiffer and more stable.
- Explore the use of different mechanisms (for example sliders, wheels and axles) in their products.
- With help, measure, mark out and cut a range of materials.
- Use tools safely (e.g. scissors and a hole punch).
- Begin to assemble, join and combine materials and components together using a variety of temporary methods
- Begin to use simple finishing techniques to improve the appearance of their products.

Evaluating

- Explain what works well and not so well in the model they have made
- Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make.

Technical Knowledge

- Make their own model stronger
- Make a product that has at least one moving part e.g. wind/ simple motor-powered boat

How can we create a simple pop-up toy, similar to one that children may have played with in the past?

Stage 1: Link it

Ask children to think of toys they had when they were very young. It would be helpful if they thought of non-battery-operated toys.

Stage 2: Research it

Children should find out more about pop up toys used in the past. They should find out how they worked and what specific technical knowledge they may need to create one.

Stage 3: Design it

Children should then attempt to design what they are going to attempt to make. They need to be realistic with their designs and ensure that it is doable. They should be able to explain exactly how they intend to make their toy.

Stage 4: Resource it

Children need to gather the resources they need to make their toy. This could include material but also may include different strength of paper.
They need to ensure safe handling of materials such as scissors.

Stage 5: Make it

Children should then move to the making stage. They make need to use their gluing or joining skills. They may need scissors, stapler, etc. Therefore, safety has to very carefully considered. It is likely that measuring will also be involved.

Stage 6: Evaluate it

Children should then consider how successful their pop-up toy is, taking account of the original brief. They may use a standard evaluation sheet for this or use the one attached as Appendix 1 at the end of this document.

Long-term overview for Design Technology

YEAR 1

How can we create a system that incorporates an axle as part of a swing?

Investigate playgrounds and investigate moving parts, such as swings

Design an initial idea, which focuses on a swing

Gather resources and make a product that incorporates a swing

Evaluate the final product against the original brief and consider how they might have made changes

Designing

- Begin to research existing products before designing their own
- When researching, find out how products work and which materials have been used.
- Explain to someone else how they want to make their product
- Begin to develop their own ideas through drawings, and where appropriate, make templates or mock ups.

Making

- Begin to build structures, exploring how they can be made stronger, stiffer and more stable.
- Explore the use of different mechanisms (for example axles) in their products.
- With help, measure, mark out and cut a range of materials.
- Use tools safely (e.g. scissors and a hole punch).
- Begin to use simple finishing techniques to improve the appearance of their products.

Evaluating

- Explain what works well and not so well in the model they have made
- Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make.

Technical Knowledge

- Make their own model stronger
- Make a product that incorporates an axle

How can we create a system that incorporates an axle as part of a swing?

Stage 1: Link it

Ask children to think of the times they have visited a park and played on the swing. Can they think of other mechanisms that need a swing system?

Stage 2: Research it

Children should find out about how a swing works.
They should get to know words such as ‘axle’ and use this word in the context of their design.

Stage 3: Design it

Children should then attempt to design what they are going to make. They need to remember what the design brief is and not vary from it. They need to consider the swinging element of the swing and axle.

Stage 4: Resource it

They need to source materials, ensuring that they will be fit for purpose. They need to consider the size and ensure that they are not using too many expensive items.

Stage 5: Make it

Children should then move to the making stage. They need to measure and cut carefully taking account of safety factors. They need to ensure that the swing does move appropriately on the axle and that the design brief has therefore been met.

Stage 6: Evaluate it

Children should then consider how successful their swing is, taking account of the original brief. They may use a standard evaluation sheet for this or use the one attached as Appendix 1 at the end of this document. They should be able to explain what went well and what they would change

Long-term overview for Design Technology

YEAR 1

How can we ensure that out sandwich is healthy?

Research and find out which foods are deemed healthy and which are not

Design an initial idea, sandwich which includes healthy ingredients

Gather ingredients and make a sandwich that is deemed healthy

Evaluate the sandwich against the original brief of being healthy and consider how we might make changes

Designing

- Begin to research existing sandwiches before designing their own
- When researching, find out how which ingredients are healthy.
- Explain to someone else how they want to make their sandwich
- Begin to develop their own ideas through drawings, and where appropriate, make templates or mock ups.

Making

- Begin to make sandwich, taking full account of cutting safely
- Find out who likes the various ingredients chosen
- With help, measure, mark out and cut ingredients.
- Use tools safely (e.g. knife).
- Begin to use simple finishing techniques to improve the appearance of their products (i.e. set it out on a plate properly).

Evaluating

- Explain what went well and not so well in the making of the sandwich they have made
- Begin to evaluate their sandwich as they are developed, identifying strengths and possible changes they might make.

Food Technology

- Cut food safely
- Know that all food comes from either plants or animals.
- Use basic food handling, hygiene practices and personal hygiene
- Know how to prepare simple dishes safely and hygienically without using a heat source.
- Know how to use techniques such as cutting, peeling and grating.

How can we ensure that out sandwich is healthy?

Stage 1: Link it

Ask children to think of the times they have eaten a sandwich and talked about healthy snacks in EYFS. They may be able to talk about healthy ingredients.

Stage 2: Research it

Children will find out what constitutes a healthy sandwich. They should start with the bread and decide which is the healthiest bread for them to use. They can move on and look at the fillings before checking whether they can use butter, or another spread.

Stage 3: Design it

Once they have the information they need they should put together a proposal and design their sandwich. They will have to prove that this will be a healthy sandwich. They will need to think of the calorie and begin to find out about how many calories in their sandwich.

Stage 4: Resource it

They need to get hold of all the ingredients they need and may have to source them from more than one place. They should cost their ingredients and be able to give some idea as to how much their sandwich has cost to make.

Stage 5: Make it

Children should then move to the making stage. They need to use kitchen utensils including a knife and will have to use them carefully and safely. They need to know about food hygiene and adhere to these. They also need to think about presentation.

Stage 6: Evaluate it

Children should then explain about how successful and tasty their sandwich is. Of course, the healthy aspect is very important also. They should take account of the original brief. They may use a standard evaluation sheet for this or use the one attached as Appendix 1 at the end of this document. They should be able to explain what went well and what they would change

Long-term overview for Design Technology

YEAR 2

How can we create a tall structure similar to the ones seen in London?

Research the large tower-like structure in London

Design a tall structure that would not seem out of place in London

Gather the resources needed to make the structure

Ensure the structure is strong, at least 30cms tall and can stand without additional support

Evaluate the final product, giving consideration to how it may differ if it were to be made again

Designing

- Begin to develop their design ideas using research and discussion with peers and adults.
- Understand the purpose of their product
- Think of an idea and plan what to do next
- Explain why they have chosen specific textiles or materials
- Draw a simple design and label the parts of their product
- develop their own ideas through drawings, and where appropriate, make templates or mock ups.

Making

- Choose tools and materials and explain why they have chosen them
- Join materials and components in different ways, including glue, sellotape and masking tape.
- Build structures, exploring how they can be made stronger, stiffer and more stable.
- With help, measure, cut and score with some accuracy.
- Start to assemble, join and combine materials in order to make a product.

Evaluating

- Evaluate their work against their design criteria.
- Start to evaluate their product as it is being developed, identifying strengths and possible changes they might make.
- With confidence talk about their ideas, saying what they like and dislike about their product.

Technical Knowledge

- Make a model stronger and more stable,

How can we create a tall structure similar to the ones seen in London?

Stage 1: Link it

Some children may have visited London with family or friends, and this would be a valuable starting point. If not, they will have seen tall and well-known structures on television or elsewhere.

Stage 2: Research it

Children will need to find out about tall structures in our country. They need to see photographs of 'The Shard', 'The Gherkin' and 'The Angel of the North'. They also need to find out about what makes a strong structure and find out about triangles, etc.

Stage 3: Design it

Once they have the information they need, they should put together a proposal and design their structure. A diagram is essential this time and it should be annotated. It should be clear that it is tall but also sturdy.

Stage 4: Resource it

They need to get hold of all the resources they need. This could include construction sets such as lego. They need to ensure that the resources they have collected guarantees that they have a sturdy structure which is at least 30 cms. Tall.

Stage 5: Make it

Children should then move to the making stage. They may need to make amendments to their original design as they may find that the structure they designed is not sturdy enough. Dependant on the materials they use they may also be using a range of tools. They need to do so safely and carefully.

Stage 6: Evaluate it

Children should then explain what went well and what had to be changed about their design. They will need to be able to explain this to others. They could use a pre-pared evaluation sheet (see Appendix 1) or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 2

How can we create a Kenyan traditional village home that incorporates an African-style material roof?

Research what traditional village homes look like in parts of Kenya

Take time to design the roof (made from textiles) taking account of Kenyan art

Gather the resources needed to make the structure and the textile roof

Ensure that the roof design incorporates some sewing (running stitch)

Evaluate the final product against the original design and ensuring Kenyan style pattern on the roof

Designing

- Begin to develop their design ideas using research and discussion with peers and adults.
- Understand the purpose of their product
- Explain why they have chosen specific textiles or materials
- Draw a simple design and label the parts of their product
- Develop their own ideas through drawings, and where appropriate, make templates or mock ups of their initial ideas.

Making

- Choose tools and materials and explain why they have chosen them
- Join materials and components in different ways, including sewing.
- Can identify and name a simple selection of hand tools (e.g. scissors).
- Use simple sewing techniques including cutting, shaping and joining fabric to make a simple product.
- With help, measure, cut and score with some accuracy.
- Start to assemble, join and combine materials in order to make a product.
- Start to choose and use appropriate finishing techniques based on their own ideas.

Evaluating

- Evaluate their work against their design criteria.
- Start to evaluate their products as they are developed, identifying strengths and possible changes they might make.
- With confidence, talk about their ideas, saying what they like and dislike about their product.

Technical Knowledge

- Make a model stronger and more stable,

How can we create a Kenyan traditional village home that incorporates an African-style material roof?

Stage 1: Link it

Children may have completed a geography unit on contrasting a small place in Britain with a small place in a non-European country. If so, draw on the experience and use this to help with this unit.

Stage 2: Research it

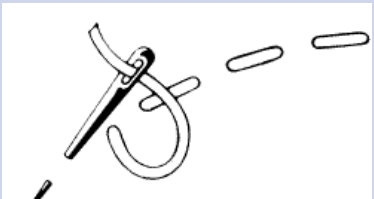
Children will need to carry research about the climate in Kenya (or alternative) and about some of the village homes in these places. They will also need to find out about some of the traditions associated with the country looked at. They will also need to look at the art associated with the country.

Stage 3: Design it

They will need to draw a sketch of the home they are intending to make. They need to construct a building, but the most important part will be the material used for the roof. They could for example, find themselves using tie dye or something similar. The roof could incorporate something that requires children use a running stitch

Stage 4: Resource it

Children will need to ensure that if they are using something like tie dye that they have the necessary resources at hand. They may be using a running stitch so they will need to have needles and cotton, etc.



Stage 5: Make it

Children should then move to the making stage. They should try and keep to their original brief as much as they can but there is also an acceptance that they may need to deviate from the original design because the practical elements may prove difficult.

Stage 6: Evaluate it

Children should then explain what went well with their material roof and what had to be changed about their design. They will need to be able to explain this to others. They could use a pre-pared evaluation sheet (see Appendix 1) or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 2

How can we create a Victorian style vehicle that moves on axles and wheels?

Research what vehicles looked like in Victorian times

Design a vehicle that takes account of the historical period and incorporates axles and wheels

Gather the resources needed to make the vehicle

Ensure that in the making phase, the axles and wheels are strong enough

Evaluate the vehicle against the original design and explain how it could be made stronger

Designing

- Research independently and generate some ideas before thinking about resources.
- Order the main stages of making a product, continually referring to purpose and establish criteria for a successful product.
- Design a product and make sure that it meets the design criteria including looking attractive (if needed)
- When planning, explain their choices of materials and components, including function.

Making

- Choose tools and materials and explain why they have chosen them
- Can identify and name a simple selection of hand tools (e.g. scissors).
- Build structures, exploring how they can be made stronger, stiffer and more stable.
- With help, measure, cut and score with some accuracy.
- Start to assemble, join and combine materials in order to make a product.
- Start to choose and use appropriate finishing techniques based on their own ideas.

Evaluating

- Evaluate their work against their design criteria.
- Start to evaluate their products as they are developed, identifying strengths and possible changes they might make.
- With confidence, talk about their ideas, saying what they like and dislike about their product.

Technical Knowledge

- Make a model stronger and more stable,
- Use wheels and axles, when appropriate to do so

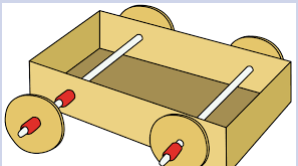
How can we create a Victorian style vehicle that moves on axles and wheels?

Stage 1: Link it

Children will have completed a history unit on the Victorians if they are doing this unit. They will have toy vehicles themselves and will need to look at how the wheels are fixed to the chassis.

Stage 2: Research it

Children need to carry out some research to find out about wheels and axles and Victorian vehicles. They will need to consider how the wheels are attached to the chassis and how this will work in their model.



Stage 3: Design it

This is the part that will take up much of the time. They need to give careful thought to the materials they have available to them and how best to put the vehicle together. They will need to create a diagram of their desired product and annotate it so that it clear what their intention is.

Stage 4: Resource it

Children will need to source the resources they want to use and make amendments if they find it necessary to do so. Again, they find construction kits useful for part of their vehicle. They will also need their vehicle to look special.

Stage 5: Make it

Children should then move to the making stage. They should try and keep to their original brief as much as they can but there is also an acceptance that they may need to deviate from the original design because the practical elements may prove difficult.

Stage 6: Evaluate it

Children should then explain what went well with their vehicle and what had to be changed about their design. They will need to explain this to others. They could use a pre-pared evaluation sheet (see Appendix 1) or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 2

How can we create a pizza with a range of ingredients?

Research what pizzas are made of

Design a pizza that has different ingredients as voted for by the group

Gather the ingredients needed to make the pizza

Ensure that in the making phase, weighing and measuring is appropriate

Evaluate the pizza against the original design and explain how it could be made even better

Designing

- Research independently and generate some ideas before thinking about resources.
- Order the main stages of making the pizza,
- Design the pizza and make sure that it meets the design criteria including looking desirable
- When planning, explain their choices of ingredients.

Making

- Choose utensils and ingredients and explain why they have chosen them
- Identify and name a simple selection of kitchen utensils (e.g. pizza roller).
- With help, measure, cut and score with some accuracy.
- Start to measure and make the pizza
- Start to choose and use appropriate finishing techniques based on their own ideas.

Evaluating

- Evaluate their pizza against their design criteria.
- Start to evaluate their pizza as they are making it, identifying strengths and possible changes they might make.

Food Technology

- Know that everyone should eat at least five portions of fruit and vegetables each day.
- Demonstrate how to prepare simple dishes safely and hygienically without using a heat source.
- Demonstrate how to use techniques such as cutting, peeling and grating.
- Weigh ingredients to use in a recipe
- Describe the ingredients used when making a dish or cake
- Can talk about which food is healthy and which is not
- Follow safe procedures for food safety and hygiene.

How can we create a pizza with a range of ingredients?

Stage 1: Link it

Most children will have eaten a pizza or at the very least seen one. They need to draw on this experience before starting this process. They may have seen some being made, especially the way the chef rolls the base, etc.

Stage 2: Research it

Children need to carry out some research to find out about what pizzas are made of and what toppings they may use. They need to look at some recipes and see what is possible to be done. They may also have favourite toppings themselves. They will also need to find out how pizzas are cooked in special ovens although it is likely that a conventional oven will be used for their pizza.

Stage 3: Design it

The main part of this section is to decide on the toppings to be added to the base. Because of their age, the base will be quite simple but they will have decisions to make about the toppings used.

Stage 4: Resource it

Once they have designed the pizza, they will need to ensure that they have everything they need to add to the top of the pizza. This will probably include ingredients such as tomatoes and cheese

Stage 5: Make it

Children will have to learn terms such as kneading and know how to knead the pizza base. They will have to have a clear understanding about food hygiene and be able to make their pizza carefully and safely.
They will need to be supervised when using the oven and they need to learn about the temperature the oven needs to be at.

Stage 6: Evaluate it

Children should explain what they liked about their pizzas and what they may have done differently if they were to do another one.
They could use members of the class in a tasting survey and record as set in Appendix 2 at the back of this document.

Focus Education

Lower Key Stage 2

Long-term overview for Design Technology

YEAR 3

How can we create a weaving loom to produce a A4 floor mat which incorporates a range of textiles and textures?

Research different ways of weaving

Design a floor mat that has different patterns and textures

Gather the resources needed to make the floor mat

Show the correct techniques when weaving, knowing how to join different materials

Evaluate the floor mat against their original idea and make suggestions about improvements

Designing

- Begin to develop design ideas using research and discussion with peers and adults.
- Understand the purpose of their product
- Think of an idea and plan what to do next
- Draw a simple design and label the parts of their product
- Develop their own ideas through drawings, and where appropriate, make templates or mock ups of their initial ideas.

Making

- Follow a step-by-step plan, choosing the right equipment and materials
- Select the most appropriate tools and techniques for a given task
- Work accurately to measure, mark out, make cuts, score, make holes and assemble components with more accuracy.
- Start to work safely and accurately with a range of simple tools.
- Choose finishing techniques to improve the appearance of their products using a range of equipment
- Start to think about their ideas as they make their product and be willing to change things if they help them to improve their work.

Evaluating

- Explain how to improve a finished model
- Know why a model has or has not been successful
- Evaluate their product against their original design criteria (e.g. how well it meets its intended purpose).

Technical Knowledge

- If needed, use a simple IT program within the design.

How can we create a weaving loom to produce a A4 floor mat which incorporates a range of textiles and textures?

Stage 1: Link it

Pupils may have created something through weaving before in school. If they have, remind them of the experience. Some may have done some form of weaving in Forest school.

Stage 2: Research it

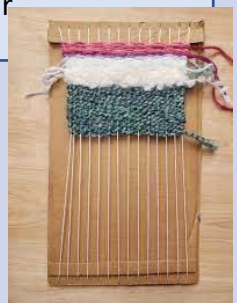
Pupils need to carry out some research to find out about weaving and the different uses it has. They will need to give consideration to the different types of weaving and how weaving may be an important part of different cultures.

Stage 3: Design it

The designing stage will vary according to the specification given. Designing the loom will need to be given some consideration. Another important consideration will be the materials used in the weaving. For example, some may have a specific brief which may involve different colours. In other cases, it may be something that involves natural products.

Stage 4: Resource it

Pupils will need to source the materials they want to use and ensure they have enough of it to meet their brief. They work to a specific brief which may include colour



Stage 5: Make it

Pupils should then move to the making stage. They should try and keep to their original brief as much as they can but there is also an acceptance that they may need to deviate from the original design because the practical elements such as availability of materials may prove difficult.

Stage 6: Evaluate it

Pupils should explain what went well with their weaving and what had to be changed about their design. They will need to explain this to others. They could use a pre-pared evaluation sheet (see Appendix 1) or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 3

How can pupils create a large structure to represent their city, town or village in the way that the Angel of the North represents an area?

Research to find out about other large structures that exist in the UK

Design a structure which is sympathetic to the area they live

Gather the resources needed to make the structure

Ensure that the structure is stable but also aesthetically pleasing

Evaluate the structure and consider what is pleasing and what could have been different

Designing

- Consider the purpose and audience for their product
- Design a product and make sure that it meets the design criteria including looking attractive (if needed)
- Draw annotated designs with labels that detail their material choices and suitability of the given materials
- Learn about designers who have developed ground breaking products.
- When planning, explain their choices of materials and components, including function.
- Develop their own ideas through drawings, making templates or mock ups of their initial ideas.

Making

- Select the most appropriate tools and techniques for the task
- Work accurately to measure, mark out, make cuts, score, make holes and assemble components with more accuracy.
- Start to work safely and accurately with a range of simple tools.
- Start to think about their ideas as they make their product and be willing to change things if they help them to improve their work.
- Start to measure, tape or pin, cut and join fabric with some accuracy.

Evaluating

- Explain how to improve a finished model
- Know why a model has or has not been successful
- Evaluate their product against their original design criteria (e.g. how well it meets its intended purpose).
- Evaluate the key designs of individuals in DT has helped shaped the world.

Technical Knowledge

- Know how to strengthen a product by stiffening a given part or reinforce a part of the structure.

How can pupils create a large structure to represent their city, town or village in the way that the Angel of the North represents an area?

Stage 1: Link it

Pupils may well have seen very large structures around the country. The Angel of the North, perhaps being the most striking one. Encourage pupils to talk about their town or city and see what think of.

Stage 2: Research it

Pupils need to have photographs of some structures that are seen around the country. They also need to research the town or city they live in and think of how their home could best be represented.

Stage 3: Design it

The designing stage potentially will be a difficult staged as pupils need to bring together a sturdy structure and one that will, in some way. represent their town or city. The design brief needs to be a major consideration with pupils remembering that their design needs to represent their home town.

Stage 4: Resource it

Pupils will need to gather a number of resources. They need to ensure that their structure is taller than 30cms. And therefore, think of resources accordingly.

Stage 5: Make it

Pupils should then move to the making stage. They need to remember that their structure needs to be sturdy and more than 30 cms tall. They need to be able to explain how the structure they have made represents their town or city.

Stage 6: Evaluate it

Pupils should explain what went well with their structure and what they may need to change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 3

How can we create a mechanism for loading objects onto a boat which incorporates a pulley system (lifting 1 kg)?

Understand how pulleys work and look how objects are loaded onto boats

Design a pulley structure which is capable of lifting a weight of 1Kg

Gather the resources needed to make the pulley

Ensure that the pulley is stable and can swing to move weight from A to B

Evaluate the pulley structure and consider how it could be improved

Designing

- Consider the purpose of their product
- Prove that a design meets the specification
- Design a product and make sure that it meets the design criteria.
- Draw annotated designs with labels that detail their material choices and suitability of the given materials
- Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products.
- When planning, explain their choices of materials and components, including function.

Making

- Select the most appropriate tools and techniques for the task
- Work accurately to measure, mark out, make cuts, score, make holes and assemble components with more accuracy.
- Start to work safely and accurately with a range of simple tools.
- Start to understand that mechanical systems (pulley) create movement.
- Start to think about their ideas as they make their product and be willing to change things if they help them to improve their work.

Evaluating

- Know why a model has or has not been successful
- Evaluate their product against their original design criteria (e.g. how well it meets its intended purpose).
- Begin to disassemble and evaluate familiar products and consider the views of others to improve them.

Technical Knowledge

- Create a product that incorporates a pulley mechanism.

How can we create a mechanism for loading objects onto a boat which incorporates a pulley system (lifting 1 kg)?

Stage 1: Link it

Pupils may have already come across pulleys in their science learning around forces. Some may have seen pulleys in other contexts. Talk to pupils about what pulleys do and remind them of the science learning if this has already happened.

Stage 2: Research it

Pupils should research how pupils reduce the load in the first instance. They should then find out about how heavy materials are loaded onto and off a boat or a ship.

Stage 3: Design it

Pupils need to give careful thought to their design process. There should be a system for them to use so that they concentrate on the pulley system. The design needs to ensure that their pulley is stable and capable of lifting a weight of 1Kg or more.

Stage 4: Resource it

Pupils will need to find appropriate pulleys and then find materials that they can use for the pulley to be stable. This may involve wood or even construction sets.

Stage 5: Make it

Pupils should then move to the making stage. They need to remember that their structure needs to be sturdy and capable of lifting a weight of more than 1Kg. They need to consider the base on which their pulley structure will sit.

Stage 6: Evaluate it

Pupils should explain what went well with their pulley structure and what they may need to change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 3

How can we make scones or cup-cakes?

Research to find out what ingredients are needed to make scones or cup cakes

Design the cakes and decide which ingredients are needed

Gather the resources needed to make the cakes

Make the cakes, measuring carefully and ensure you are working hygienically and safely

Evaluate the cakes and consider how they could be improved

Designing

- Design the cakes making sure that they meet the design criteria.
- Draw annotated designs with labels that detail their material choices and suitability of the given materials
- When planning, explain their choices of ingredients and components.

Making

- Select the most appropriate utensils and for the task
- Work accurately to measure and make cuts accuracy.
- Start to work safely and accurately with a range of simple utensils.
- Start to think about their ideas as they make their cakes and be willing to change things if they help them to improve their work.

Evaluating

- Know why the cakes have or have not been successful
- Evaluate their cakes against their original design criteria

Food Technology

- Describe how food ingredients come together
- Weigh out ingredients and follow a given recipe to create a dish
- Understand how to prepare and cook safely and hygienically including, where appropriate, the use of heat source.
- Begin to understand how to use a range of techniques, such as peeling, chopping, slicing, gracing, mixing, spreading, kneading and baking.
- Begin to know that to be active and healthy, food and drink are needed to provide energy for the body.

How can we make scones or cup-cakes?

Stage 1: Link it

Most pupils will have eaten a cup-cake before, and many will have eaten a scone. They need to remember the last time they had a scone or a cup-cake and talk to each other about that time.

Stage 2: Research it

Pupils need to carry out some research to find out when scones are eaten and what people eat them with, i.e., cream or jam.
They need to Consider the way in which cup-cakes can be altered by using coloured icing, etc.
They also need to think of the heat of the oven when cooking either and of course, the time needed for cooking.

Stage 3: Design it

If pupils are making cup-cakes, they will need to design the cup-cake. This need to be a realist design and not one that is too difficult to make, (You may have to manage their expectations).

Stage 4: Resource it

Pupils should work out exactly which ingredients they need to complete the cooking task. This includes thinking of quantities as well. They need to give consideration to the way they will present their final cakes.

Stage 5: Make it

Pupils will need to know exactly how to mix the ingredients together, which ingredients are mixed in the first instance and ensure that full hygiene procedures are being adhered to. They will also be sure of the cooking temperature and the length of the cooking. They need to give full consideration to safety..

Stage 6: Evaluate it

Pupils should explain what they liked about their cakes (scones or cup-cakes) and what they may done have differently if they were to do them again.
They could use members of the class in a tasting survey and record as set in Appendix 2 at the back of this document.

Long-term overview for Design Technology

YEAR 4

How can we create a Roman weapon to propel a marble one metre which is operated by a lever system?

Research to find out more about Roman weapons

Design a weapon with a lever system that has the capability of propelling a marble at least 1m

Gather the resources needed to make the weapon

Ensure that the weapon looks authentic and is stable with a working lever system

Evaluate the end product (weapon) and consider how it could be improved

Designing

- Research Roman weapons before designing the product.
- Confidently make labelled drawings from different views, showing specific features.
- Produce a plan and explain how the lever will work.
- Communicate ideas through annotated sketches that show different viewpoints of the product
- Begin to be very familiar with different inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products.

Making

- Know which tools to use for a particular task and show knowledge of handling the tool accurately and safely.
- Know which material is likely to give the best outcome based on its properties
- Mark, measure and cut accurately a range of materials using appropriate tools, equipment and techniques.
- Start to join and combine materials and components accurately in temporary and permanent ways.
- Show high levels of perseverance when things do not go as they would wish in the first instance.
- Know how mechanical systems (such as levers) create movement.
- Understand how to reinforce and strengthen a 3D framework.
- Begin to use finishing techniques to strengthen and improve their appearance of their product using a range of equipment.

Evaluating

- Evaluate product for both their purpose and appearance
- Evaluate their product, carrying out appropriate tests.
- Evaluate their product both during and at the end of the assignment.
- Be able to disassemble and evaluate familiar products and consider the views of others to improve them.

Technical Knowledge

- Create a product that incorporates at least one lever.

How can we create a Roman weapon to propel a marble one metre which is operated by a lever system?

Stage 1: Link it

This is a unit pupils may be doing after they have completed their history unit on the Romans. They should have an opportunity of speaking about the learning in history before starting on the weapon.

Stage 2: Research it

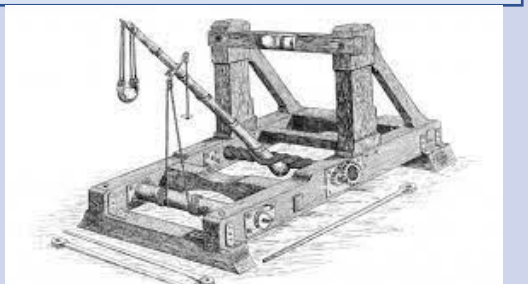
Pupils should research how Romans used their weapons and how they were moved around. They should know what their weapons were made of and how they worked.

Stage 3: Design it

The important point here is that they have a working lever in the weapon. Pupils need to give consideration to the size and not lose sight of the brief which sees them being able to catapult a marble a distance of at least 1 metre. They need to recognise that their original design may have to alter considerably during the making stage.

Stage 4: Resource it

Pupils will need to find appropriate materials to make their weapon and focus on the lever system they will use. Although they will start from their design, they may have to make modifications along the way.



Stage 5: Make it

Pupils may find this part a difficult one. They need to ensure that the level system works in the first place and then create a structure around it. They will need to be careful and safe as they use tools, especially when there is any cutting involved.

Stage 6: Evaluate it

Pupils should explain what went well with their lever structure and what they may need to change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 4

How can we create a A4 personal flag for the opening ceremony of the Ancient Greek Olympics which incorporates a running or blanket stitch?

Research what happened at the Greek Olympics

Design a flag that is made from different materials

Gather the resources needed to make the flag

Join different parts of the flag by sewing, showing appropriate sewing techniques

Evaluate the completed flag and consider how it could be improved

Designing

- Research as a matter of course before considering designing a product.
- Produce a plan and explain the use of materials, equipment and processes
- If the first attempt fails, identify strengths and future areas for development.
- Communicate ideas through annotated sketches that show different viewpoints of the product

Making

- Know which tools to use for a particular task and show knowledge of handling the tool accurately and safely.
- Know which material is likely to give the best outcome based on its properties
- Mark, measure and cut accurately a range of materials using appropriate tools, equipment and techniques.
- Start to join and combine materials and components accurately in temporary and permanent ways.
- Sew, weave or knit using a range of stitches
- Show high levels of perseverance when things do not go as they would wish in the first instance.

Evaluating

- Evaluate products for both their purpose and appearance
- Evaluate their own and others work
- Evaluate their product, carrying out appropriate tests.
- Evaluate their product both during and at the end of the assignment.
- Present a product in an interesting way

Technical Knowledge

- Use appropriate sewing techniques, such as a running or blanket stitch.

How can we create a A4 personal flag for the opening ceremony of the Ancient Greek Olympics which incorporates a running or blanket stitch?

Stage 1: Link it

This is a unit pupils may be doing after they have completed their history unit on Ancient Greece. They should have an opportunity of speaking about the learning in history before starting on the weapon. They may also have references to the Olympics to talk about

Stage 2: Research it

Pupils should research what the current Olympic flag looks like and the type of symbols that would best represent Ancient Greece. They should also find out about the blanket and running stitches.

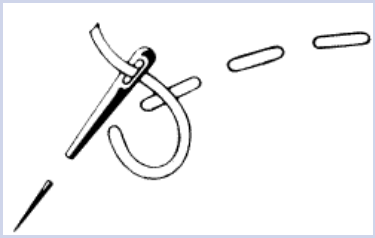
Stage 3: Design it

Pupils must take account of the Olympics and Ancient Greece when designing their flag. It is important that both are represented in their design. The flag needs to include some stitching using either the blanket or running stitch.

Stage 4: Resource it

Pupils will need to find a suitable piece of material in the first place. They will also need a needle and cotton or thread.

blanket



running

Stage 5: Make it

Pupils need to be patient, especially with the stitching as this may a new experience for many of them. They should be able to produce a flag that is true to their design with few amendments needed.

Stage 6: Evaluate it

Pupils should explain what went well with their flag and what they may change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 4

How can we create an electrical torch which incorporates changing colours e.g. kaleidoscope?

- Understand how a torch works
- Design a colour system that can be attached to a torch to create a kaleidoscope
- Gather the resources needed to the colour changes
- Ensure the kaleidoscope is strong enough to withstand constant use
- Evaluate the kaleidoscope against the original design

Designing

- Produce a plan and explain the use of materials, equipment and processes
- Persevere and adapt work when original ideas do not work
- If the first attempt fails, identify strengths and future areas for development.
- Communicate ideas through annotated sketches that show different viewpoints of the product
- Begin to be very familiar with different inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products.

Making

- Know which tools to use for a particular task and show knowledge of handling the tool accurately and safely.
- Know which material is likely to give the best outcome based on its properties
- Mark, measure and cut accurately a range of materials using appropriate tools, equipment and techniques.
- Start to join and combine materials and components accurately in temporary and permanent ways.
- Show high levels of perseverance when things do not go as they would wish in the first instance.
- Know how simple electrical circuit and components can be used to create functional products.

Evaluating

- Evaluate and suggest improvements for designs
- Evaluate their product, carrying out appropriate tests.
- Evaluate their product both during and at the end of the assignment.
- Present a product in an interesting way

Technical Knowledge

- Link scientific knowledge by using lights, switches or buzzers
- Use IT where appropriate to add to the quality of the product.

How can we create an electrical torch which incorporates changing colours e.g. kaleidoscope?

Stage 1: Link it

This is a unit pupils may be doing after they have completed their electricity unit in science. They should have an opportunity of speaking about the learning in science before starting on the kaleidoscope. They may also have references to kaleidoscope they had as a toy.

Stage 2: Research it

Pupils should research to find out about kaleidoscopes. They should be able to work out how they work and how the electrical aspect is incorporated.

Stage 3: Design it

The main part of the design will be to create a lens that can be rotated and that has a range of carefully chosen colours. There may be restriction to the colours used according to the transparencies they have available. They may wish to design the tube as well

Stage 4: Resource it

Pupils will need to find a suitable tube and cellophane of different colours. They need to remember that ideally, they need to rotate part of the tube.

Stage 5: Make it

Pupils need to ensure that their tube has a rotating part at the end so that they can twist the coloured lens. They may also spend time on decorating the kaleidoscope. The kaleidoscope needs to be robust and be used by different people.- It is likely that cutting tools will be involved so they need to handle equipment safely.

Stage 6: Evaluate it

Pupils should explain what went well with their kaleidoscope and what they would change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 4

How can we prepare afternoon tea for a small group, which includes at least one adult?

Research and find out what afternoon tea normally includes

Decide who to invite and create a menu to send with the invitation

Design the afternoon tea contents making decisions on sandwiches and cakes

Gather the ingredients needed before making up the afternoon tea

Evaluate the afternoon tea including creating a questionnaire for guests

Designing

- Research to find out what an afternoon tea contains.
- Ensure that ingredients for the sandwiches, savouries and cakes are available.
- Decide on the contents of the afternoon tea plate.

Making

- Measure ingredients carefully when making the sandwiches, savouries and cakes.
- Ensure that you are using the correct utensil for each product.
- Ensure that you are working hygienically and safely.

Evaluating

- Evaluate and suggest improvements for the afternoon tea
- Evaluate the afternoon tea, asking the guest their opinions.
- Evaluate the afternoon tea both during and at the end of the assignment.
- Present a product in an interesting way

Food Technology

- Bring a creative element to the food product being designed
- Know which season various foods are available for harvesting
- Recognise safe practices in the kitchen and can identify hazards e.g. hazards when using an oven
- Know how to use a range of techniques, such as peeling, chopping, slicing, gracing, mixing, spreading, kneading and baking.
- know that to be active and healthy, food and drink are needed to provide energy for the body.

How can we prepare afternoon tea for a small group, which includes at least one adult?

Stage 1: Link it

Most pupils will not have experienced a typical afternoon tea in a fancy restaurant. However, they may have experience of some of the contents, e.g., savouries and cup-cakes. They should be helped to talk about these.

Stage 2: Research it

Pupils will need to find out more about afternoon teas and what the main contents are. They will need to find out about the different types available in hotels, etc. (maybe not the prosecco). They need to find out about the special plates associated with the afternoon teas and recognise how many have tiers that hold specific aspects.

Stage 3: Design it

Pupils will recognise that this is a very open brief as afternoon teas vary greatly in content. They could consider the sandwiches, savouries and cakes they would want to include in theirs. They should also design the menu.

Stage 4: Resource it

Pupils will need to work out exactly which ingredients they need to make the different parts. For example, sandwiches needing bread and fillings, savouries needing flour and margarine for the pastry and cakes needing eggs, etc. They may also need to ensure that they have suitable plates.

Stage 5: Make it

Pupils will need to know exactly how to mix the ingredients for different parts of the afternoon tea. They will need to ensure that timing of the cooking is right so that everything comes together appropriately. They should ensure that full hygiene procedures are being adhered to. They will also be sure of the cooking temperature and the length of the cooking. They need to give full consideration to safety..

Stage 6: Evaluate it

Pupils should explain what they liked about their parts of the afternoon tea and what they will do differently if they were to do it again.
They could use members of the class in a tasting survey and record as set in Appendix 2 at the back of this

Focus Education

Upper Key Stage 2

Long-term overview for Design Technology

YEAR 5

How can we create a structure to reflect an aspect of European life which could become a European landmark out of recycled materials?

Know enough about European landmarks and lifestyle to create a structure to represent it

Create initial designs of different ideas for discussions

Listen to views of others before deciding on final idea

Use a range of materials (from waste materials) to make the structure

Evaluate the final structure and explain what it represents and where it would be placed

Designing

- Competently research products similar to the one they are intending to design and evaluate strengths and weakness to be incorporated into their own design.
- Research and use ICT (google) where appropriate
- Design, with a range of initial ideas, after collecting information from investigating existing products
- With growing confidence, apply a range of finishing techniques including those from art and design.

Making

- Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.
- Use finishing techniques to strengthen and improve the appearance of their products using a range of equipment including ICT.
- Make a prototype before making a final version
- Carry out finishing techniques (including lights) to enhance the appearance and function of their product

Evaluating

- Suggest alternative plans; outlining the positive features and drawbacks
- Evaluate appearance and function against original criteria
- Begin to evaluate their product personally and seek evaluation from others.

Technical Knowledge

- Suggest alternative plans; outlining the positive features and drawbacks
- Evaluate appearance and function against original criteria

How can we create a structure to reflect an aspect of European life which could become a European landmark out of recycled materials?

Stage 1: Link it

Pupils may know about some European landmarks that they have studied in their geography. A few may have travelled to Europe and seen some of the landmarks they may wish to focus on.

Stage 2: Research it

Pupils should use maps and the internet to find out more about European landmarks. They could also find out more about recycling and using materials for modelling.

Stage 3: Design it

Pupils need to decide on a specific European landmark and make an initial sketch before making decisions about which recycled materials they could use to make a model of the landmark. The model needs to be sturdy and be instantaneously recognisable.

Stage 4: Resource it

Pupils will need to source and gather recycled materials they intend to use in their model making. They need to consider how to join different materials before finally making choices.

Stage 5: Make it

Pupils should move to the making stage. They should consider how best to join different recycled materials and, if they are using cutting tools, ensure that they use them safely. Pupils will also be using measuring skills in the making process.

Stage 6: Evaluate it

Pupils should explain what went well with their landmark and what they would change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 5

How can we create a textile product which tells a story and incorporates fabric sewn onto fabric (applique)?

Know enough about the Bayeux tapestry to gain a good insight into what is required

Create initial designs of an aspect of history studied that can be created using different fabrics

Consider the views of others before proceeding to the making stage

Use a range of stitching techniques, including applique, to create the end product

Evaluate the final product, taking account of the original design and explain where variations have occurred

Designing

- Competently research the Bayeux tapestry to gai n ideas lined to the intended design and evaluate strengths and weakness to be incorporated into own design.
- Research and use ICT where appropriate
- Produce a detailed, step-by-step plan
- Explain how a product will appeal to a specific audience and how it meets the purpose
- With growing confidence, apply a range of finishing techniques including those from art and design.
- Start to appreciate how make products cost to make.

Making

- Select appropriate materials, tools and technique (e.g. cutting, shaping, joining and finishing) accurately.
- Select from and use a wider range of materials and components, including textiles, according to their functional properties and aesthetic qualities.
- Use finishing techniques to strengthen and improve the appearance of their products using a range of equipment
- Make a prototype before making a final version
- Carry out finishing techniques to enhance the appearance and function of their product

Evaluating

- Suggest alternative plans; outlining the positive features and drawbacks
- Evaluate appearance and function against original criteria
- Begin to evaluate their product personally and seek evaluation from others.

Technical Knowledge

- Use a range of sewing techniques, including applique and various stitches.

How can we create a textile product which tells a story and incorporates fabric sewn onto fabric (applique)?

Stage 1: Link it

Pupils would normally be asked to do this as a wider part of their curriculum. For example, a Bayeux Tapestry style story telling in fabric. Pupils may therefore have familiarity with an aspect that they are considering.

Stage 2: Research it

Pupils need to find out about applique and how to be successful in its use. They should be aware of the shortcomings in using this format and in being able to complete something within the given time.

Stage 3: Design it

Pupils should use an aspect of their history, geography, science or music to think about what they want to achieve. This well become more apartment dependent on what they studying currently. The design needs to take account of what is and is not possible to achieve with applique.

Stage 4: Resource it

Pupils will need to source and gather a range of materials that can be used for their scene. They need to be aware of the difficulties associated with some materials.

Stage 5: Make it

Pupils will need to learn the techniques involved with applique work and also be aware of the time it will take. They may need some support is different aspects of their applique work and be prepared to receive this help if needed.

Stage 6: Evaluate it

Pupils should explain what went well with their applique and what they would change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 5

How can we create a water mill system for a developing country which incorporates gears?

Know enough about a way a watermill works

Create initial design taking account of how gears work

Take time to ensure that the gear system is working well and stands up to continuous use

Make a water mill, that incorporates gears, and show it working

Evaluate the water mill against original ideas and seek views of others about its success

Designing

- Competently research how water mills work.
- Research and use ICT where appropriate
- Design, with a range of initial ideas, after collecting information from investigating existing products
- Produce a detailed, step-by-step plan
- Create annotated 3D designs of their design on isometric or squared paper from a range of viewpoints.
- With growing confidence, apply a range of finishing techniques including those from art and design.
- Start to appreciate how much the product costs to make.

Making

- Name and use a range of tools and equipment competently
- Select appropriate materials, tools and technique (e.g. cutting, shaping, joining and finishing) accurately.
- Incorporate mechanical systems (such as gears) to create movement in their products.
- Use finishing techniques to strengthen and improve the appearance of their products using a range of equipment including ICT.
- Make a prototype before making a final version
- Carry out finishing techniques to enhance the appearance and function of their product

Evaluating

- Evaluate a product against original design specifications and by carrying out tests.
- Suggest alternative plans; outlining the positive features and drawbacks
- Evaluate appearance and function against original criteria
- Begin to evaluate their product personally and seek evaluation from others.

Technical Knowledge

- Use a gear system within the watermill produced.

How can we create a water mill system for a developing country which incorporates gears?

Stage 1: Link it

Pupils may know about gears on a bicycle and may be able to make a link between gears required in their mill and those on a bicycle. Pupils may have seen a working mill and this will be supportive to them.

Stage 2: Research it

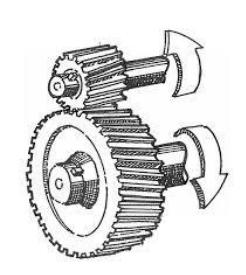
Pupils need to find out exactly how gears work. They need to look carefully at a working model (including bicycles) which incorporates gears. They will need to find out about water mills and how they work.

Stage 3: Design it

Pupils need to give a great deal of consideration to how the gear mechanism is going to work. The main aim here is to have a working gear system and they need to organise their time accordingly. The feature of the building incorporating the gear system is of secondary importance.

Stage 4: Resource it

Pupils will need to gather the resources they need together, especially the gear system. A certain amount of trial and error may be involved in getting the right gear system.



Stage 5: Make it

The making of this water mill will be demanding and require pupils to use accurate measuring and cutting skills. Inevitably, safety has to be high focus. The making of the water mill will be a major bonus with the focus being on the gear system.

Stage 6: Evaluate it

Pupils should explain what went well with their water mill and what they would change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 5

How can we source ingredients for and make a fruit crumble?

Know which ingredients are needed to make a fruit crumble

Cost and buy the ingredients needed

Measure accurately and work hygienically

Make the crumble, working safely

Evaluate the quality of the crumble, assessing cost as well as taste

Designing

- Competently research about ingredients needed for crumble
- Produce a detailed, step-by-step plan as to how source the ingredients, including costings
- Start to appreciate how much the crumble costs to make.

Making

- Name and use a range of utensils competently
- Select appropriate utensils and measure accurately.

Evaluating

- Evaluate the crumble against original design specifications and by checking taste.
- Evaluate appearance against original criteria

Food Technology

- Be both hygienic and safe in the kitchen
- Know how to prepare a meal by collecting the ingredients in the first place
- Weigh and measure accurately (timings, dry ingredients and liquids)
- Understand how food is processed into ingredients that can be eaten or used in cooking.
- Begin to understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health

How can we source ingredients for and make a fruit crumble?

Stage 1: Link it

Most pupils will have tasted some form of fruit crumble. Indeed, apple crumble and custard is on the menu in most schools. They will also be familiar with different puddings and fruit.

Stage 2: Research it

Pupils will need to find out how to make an apple crumble and they should research to find appropriate menus. They should also know how long it takes to cook an apple crumble and how hot the oven should be.

Stage 3: Design it

Pupils will write up the recipe taking account of the information they have gleaned from their research. They will outline how much of each ingredient is needed and how to prepare the mix, etc.

Stage 4: Resource it

Pupils will gather the ingredients they need to make their crumble, ensuring they have enough of each ingredient. Most should be gathered from a local shop or supermarket.

Stage 5: Make it

Pupils will need to weigh the ingredients carefully and follow the recipe, step by step. They need to follow appropriate food hygiene recommendations and prepare their cooking area accordingly. They will use a number of kitchen utensils and these should be used carefully and safely.

Stage 6: Evaluate it

Pupils should explain what they liked about their crumble and what they will do differently if they were to do it again.
They could use members of the class in a tasting survey and record as set in Appendix 2 at the back of this document.

Long-term overview for Design Technology

YEAR 6

How can we create a vehicle capable of moving over different terrain which incorporates more than one mechanical system?

Know enough about a way a watermill works

Create initial design taking account of how gears work

Take time to ensure that the gear system is working well and stands up to continuous use

Make a water mill, that incorporates gears, and show it working

Evaluate the water mill against original ideas and seek views of others about its success

Designing

- When researching, be competent in discriminating as to what would be and would not be helpful for their intended product.
- Use market research of existing products to inform their design
- Follow and refine original plans, justifying it in a convincing way
- Draw detailed 3D designs using exploded diagrams or cross sectional drawing where appropriate to display finer details
- Know how much products cost and make choices accordingly.

Making

- Confidently select appropriate tools, materials, components and techniques and use them efficiently.
- Explain why a specific tool is best for a specific action
- Make modifications as they go along and explain their reasons.
- Construct products using permanent joining techniques.
- Use mechanical systems such as levers, pulleys and gears competently to create movement in their products.
- Use finishing techniques to strengthen and improve the appearance of their products using a range of equipment including ICT.

Evaluating

- Test and evaluate designed products with specified audience where possible
- Evaluate product against clear criteria
- Evaluate their work both during and at the end of the assignment.
- Record their evaluations using drawing with labels.

Technical Knowledge

- Know which IT product would further enhance a specific product
- Use knowledge to improve a made product by strengthening, stiffening or reinforcing
- Know when a product they have made is improved by either the use of pulleys, levers or gears.

How can we create a vehicle capable of moving over different terrain which incorporates more than one mechanical system?

Stage 1: Link it

Pupils may have seen film of the moon buggy or of a tank moving across unyielding terrain. Let them bring in toys they have at move that the capability of moving over different surfaces.

Stage 2: Research it

Pupils need to find out exactly how the moon buggy was made and also how tanks seem to find it easy to move across different surfaces. The main research will be about how the wheels are made, balls as wheels or chain mechanism such as tanks have got

Stage 3: Design it

Pupils need to give a great deal of thought to this design. It is ultimately the mechanisms they use that will decide if they have successfully met the brief. They need to give careful consideration to what they already know about mechanisms used in previous years.

Stage 4: Resource it

Pupils will need to source different mechanisms from construction kits to help them with this task. The chassis of the vehicle will not be the most important feature although many will have enjoyment in making an interesting one.

Stage 5: Make it

The making of this vehicle will be quite complicated with pupils needing to work in small groups to achieve their end goal. There will a considerable amount of joining, cutting and measuring involved. Handling tools safely need to be a major feature.

Stage 6: Evaluate it

Pupils should explain what went well with their vehicle and what they would change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 6

How can we create a camouflaged nomadic tent that would be suitable for a desert?

Know what nomadic desert tents look like and appreciate how they are made

Create initial design taking account of both structure and design of the fabric used

Create a stable structure capable of withstanding strong winds

Create a camouflaged design for the fabric part of the tent

Evaluate the tent taking account of both structure and camouflaged textile

Designing

- When researching, be competent in discriminating as to what would be and would not be helpful for their intended product.
- Follow and refine original plans, justifying it in a convincing way
- Draw detailed 3D designs using exploded diagrams or cross sectional drawing where appropriate to display finer details
- Show that culture and society is considered in plans and design specification.

Making

- Confidently select appropriate tools, materials, components and techniques and use them efficiently.
- Explain why a specific tool is best for a specific action
- Make modifications as they go along and explain their reasons.
- Construct products using permanent joining techniques.
- Use finishing techniques to strengthen and improve the appearance of their products using a range of equipment.
- Pin, sew and stitch materials together to create a product

Evaluating

- Test and evaluate designed products with specified audience where possible
- Evaluate product against clear criteria
- Evaluate their work both during and at the end of the assignment.
- Record their evaluations using drawing with labels.

Technical Knowledge

- Use knowledge to improve a made product by strengthening, stiffening or reinforcing
- Use a range of sewing techniques to improve the product made

How can we create a camouflaged nomadic tent that would be suitable for a desert?

Stage 1: Link it

Pupils may have had experience of sleeping in a tent. Others may have studied nomadic tribes as part of their geography learning. They will also have come across the term 'camouflage'.

Stage 2: Research it

Pupils need to carry out quite a bit of research for this task. They need to learn about:

- nomadic tribes
- camouflaged tents
- tie dye
- erecting a tent

Stage 3: Design it

Pupils should find this part interesting and exciting. They have the opportunity to be quite creative, within reason. The style of tent will be an interesting feature as they are likely to be quite shallow tents with limited height. They can also design the terrain.

Stage 4: Resource it

Pupils will need to source the material for the tent. They will need to consider different paint or dyes for camouflaging the tent as well.
They will need some strong upright pieces of wood for the tent posts, etc.

Stage 5: Make it

The making of the tent will mostly consist of ensuring that the tent material is appropriately camouflaged which may involve dye the material. It will also involve ensuring that the structure is strong enough to hold the tent up. The deigning of the terrain will also be an important feature.

Stage 6: Evaluate it

Pupils should explain what went well with their tent and what they would change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 6

How can we create a traffic light system that involves the use of IT?

Know how a traffic light system works

Create initial design taking account of what is available to them, including IT

Create a prototype to check that their ideas works

Make a traffic like system that follows the traditional system used in this country

Evaluate the traffic light system, taking account of what was difficult to achieve

Designing

- Competently research how traffic light system works.
- Research and use ICT where appropriate
- Design, with a range of initial ideas, after collecting information from investigating existing products
- Produce a detailed, step-by-step plan
- Start to appreciate how much the product costs to make.

Making

- Confidently select appropriate tools, materials, components and techniques and use them efficiently.
- Know how to use any tool (including IT) correctly and safely
- Explain why a specific tool is best for a specific action
- Make modifications as they go along and explain their reasons.
- Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.

Evaluating

- Test and evaluate designed products with specified audience where possible
- Evaluate product against clear criteria
- Evaluate their work both during and at the end of the assignment.
- Record their evaluations using drawing with labels.

Technical Knowledge

- Know which IT product would further enhance a specific product
- Use electrical systems correctly and accurately to enhance a given product

How can we create a traffic light system that involves the use of IT?

Stage 1: Link it

Pupils will have covered aspects of this in their science learning about electricity and in their computing lessons. .They will be familiar with the sequencing of the traffic lights on our roads.

Stage 2: Research it

Pupils need to find out the sequence of lights on and off in a typical sequence. They also need to research how the system works and try to replicate this in their design.

Stage 3: Design it

The major feature of the design is working out how to organise the sequence of lights required at a traffic light system.
They may need to consider how to get the three colours as well.

Stage 4: Resource it

Pupils will need to use their IT skills to set up the sequence. This will part of their coding and should link nicely with the computing curriculum.

Stage 5: Make it

The making of the sequence will be via the use of the coding system on their computers. They should have designed the sequence and the making will be the trying out and making any necessary adjustments.

Stage 6: Evaluate it

Pupils should explain what went well with their traffic light system and what they would change if they did it again. They could use a pre-prepared evaluation sheet as in Appendix 1, or they could be asked to explain their way of working in another way.

Long-term overview for Design Technology

YEAR 6

How can we prepare the equivalent of a Sunday lunch for a small group of adults?

Research to find out exactly what a Sunday lunch is made up of

Cost out the ingredients and make a list before shopping

Create invitations and a menu for guests

Make the lunch recognising which needs to go into the oven first or prepared first so that everything comes together

Evaluate the lunch, taking account of what the guests said

Designing	Making	Evaluating
• Competently research what a Sunday lunch means to older people • Cost out ingredients and take this into account when designing the meal • Produce a detailed, step-by-step plan of how to prepare the meal	• Confidently select appropriate utensils, pans, etc. and use them efficiently. • Know how to use any utensil correctly and safely • Explain why a specific utensil is best for a specific action • Make modifications as they go along and explain their reasons.	• Test and evaluate the lunch with specified guests where possible • Evaluate lunch against clear criteria • Evaluate their way of working, both during and at the end of the assignment. • Record their evaluations using graphs.

Food Technology

- Explain how food ingredients should be stored and give reasons
- Work within a budget to create a meal
- Understand the difference between a savoury and sweet dish
- Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically, including where appropriate, the use of a heat source.
- Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.

How can we prepare the equivalent of a Sunday lunch for a small group of adults?

Stage 1: Link it

Most pupils will have experienced sitting together as a family to have a meal, but will they have experienced this every Sunday and had what is known as Sunday lunch?

Stage 2: Research it

Pupils will need to find out what a Sunday lunch consisted of and how it was part of almost every family's weekly life.
They will need to find out how to roast meat (beef, lamb, chicken or pork) and prepare the vegetables.

Stage 3: Design it

Pupils will make decisions about which meat they will use, which vegetables they will choose and whether they have roasted potatoes, stuffing or Yorkshire puddings. They need to give thought to the amount of time it takes to roast the meat, how much time the vegetables need, etc. They will also design the menu for their guests.

Stage 4: Resource it

Pupils will gather the ingredients they need to make their lunch, ensuring they have enough of each ingredient. Most should be gathered from a local shop or supermarket.

Stage 5: Make it

Pupils will need to think carefully about the time needed for their ingredients so that everything is ready at the same time.. They need to follow appropriate food hygiene recommendations and prepare their cooking area accordingly. They will use a number of kitchen utensils, and these should be used carefully and safely.

Stage 6: Evaluate it

Pupils should explain what they liked about their lunch and what they will do differently if they were to do it again. They could use their guests to do a tasting survey and record as set in Appendix 2 at the back of this document.

Focus Education

Additional, or alternative plans

Long-term overview for Design Technology

YEAR 1

How can we create a simple toy or system that has a slider involved?

Research to find out about toys in the past, especially those before batteries, etc.

Know how a slider works and design initial idea

Ensure that the slider is strong enough when making the product

Evaluate the final product against the original brief

Designing

- Begin to research existing products before designing their own
- When researching, find out how products work and which materials have been used.
- Design a product which moves using a slider
- Explain to someone else how they want to make their product
- Make a simple plan before making the product
- Begin to develop their own ideas through drawings, and where appropriate, make templates or mock ups

Making

- Begin to build structures with sliders, exploring how they can be made stronger, stiffer and more stable.
- Explore the use of different mechanisms (for example sliders, wheels and axles) in their products.
- With help, measure, mark out and cut a range of materials.
- Use tools safely (e.g. scissors and a hole punch).
- Begin to assemble, join and combine materials and components together using a variety of temporary methods
- Begin to use simple finishing techniques to improve the appearance of their products.

Evaluating

- Explain what works well and not so well in the model they have made
- Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make.

Technical Knowledge

- Make their own model stronger
- Make a product that has at least one moving part e.g. wind/ simple motor-powered boat

Long-term overview for Design Technology

YEAR 5

How can we use pneumatics to create a monster toy?

Research to find out what pneumatics are and how they work

Create initial design taking account of how pneumatics work

Gather the resources needed to make a pneumatic system

Make a the toy, ensuring the pneumatics system is fit for purpose

Evaluate the toy monster against original design brief and ask others' views

Designing

- Competently research how pneumatics work.
- Research and find out additional information about making a pneumatic system
- Design, with a range of initial ideas, after collecting information from investigating existing products
- Produce a detailed, step-by-step plan
- Create annotated 3D designs of their design on isometric or squared paper from a range of viewpoints.
- Start to appreciate how much the product costs to make.

Making

- Name and use a range of tools and equipment competently
- Select appropriate materials, tools and technique (e.g. cutting, shaping, joining and finishing) accurately.
- Incorporate mechanical systems (pneumatics) to create movement in their products.
- Use finishing techniques to strengthen and improve the appearance of their products using a range of equipment including ICT.
- Make a prototype before making a final version
- Carry out finishing techniques to enhance the appearance and function of their product

Evaluating

- Evaluate the product against original design specifications by carrying out tests.
- Suggest alternative plans; outlining the positive features and drawbacks
- Evaluate appearance and function against original criteria
- Begin to evaluate their product personally and seek evaluation from others.

Technical Knowledge

- Use a pneumatics to create movement in a simple model..

Long-term overview for Design Technology

YEAR 6

How can we prepare a meal for guests taking account of the rationing in place during World War 2?

Research to find out exactly the extent rationing was in place

Find out which ingredients are available for making the meal

Design an initial meal taking account of the rationing

Make the meal and recognise the restrictions for its preparation

Evaluate the meal, taking account of what the guests said

Designing

- Competently research what a rationing meant in households during the war
- Cost out ingredients and take this into account when designing the meal
- Work out alternative ingredients when some are deemed not available
- Produce a detailed, step-by-step plan of how to prepare the meal

Making

- Confidently select appropriate utensils, pans, etc. and use them efficiently.
- Know how to use any utensil correctly and safely
- Explain why a specific utensil is best for a specific action
- Make modifications as they go along and explain their reasons.
- Ensure that the food preparation area is hygienic

Evaluating

- Test and evaluate the lunch with specified guests where possible
- Evaluate lunch against clear criteria
- Evaluate their way of working, both during and at the end of the assignment.
- Record their evaluations using graphs.

Food Technology

- Explain how food ingredients should be stored and give reasons
- Work within a budget to create a meal
- Understand the difference between a savoury and sweet dish
- Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically, including where appropriate, the use of a heat source.
- Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.

Long-term overview for Design Technology

YEAR 6

How can we prepare a meal with a specific culture in mind?

Research to find out exactly which foods come from which countries

Find out more about the country chosen and especially its cultural heritage

Decide on a meal that is indicative of the country being focused on

Make the meal and acknowledge how some ingredients may need special preparation

Evaluate the meal, taking account of what the guests said

Designing

- Competently research the country the meal derived from
- Find out more about the country's cultural heritage
- Cost out ingredients and take this into account when designing the meal
- Find out about ingredients that may be specific to the country.
- Produce a detailed, step-by-step plan of how to prepare the meal

Making

- Confidently select appropriate utensils, pans, etc. and use them efficiently.
- Know how to use any utensil correctly and safely, especially if it is a specific utensil related to the country being looked at
- Explain why a specific utensil is best for a specific action
- Make modifications as they go along and explain their reasons.
- Ensure that the food preparation area is hygienic

Evaluating

- Test and evaluate the product with specified guests where possible
- Evaluate product against clear criteria
- Evaluate their way of working, both during and at the end of the assignment.
- Record their evaluations using graphs.

Food Technology

- Explain how food ingredients should be stored and give reasons
- Work within a budget to create a meal
- Know how to prepare specific foods associated with a country of choice
- Know how to prepare and cook hygienically and safely, including where appropriate, the use of a heat source.
- Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.

Focus Education

Appendices

Appendix 1	Evaluation
My design (annotated)	What I like about my design
	What I would change
Resources I needed	

Appendix 2: Food Technology Evaluation – Tasting Survey		
Name	**Comment and make on taste**	**Comment and make on appearance and presentation**