Design Technology

Newlands Junior School
We are Proud

Health & Wellbeing	Environment	Global Community	Creativity	Possibilities
				

National curriculum
Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques;
Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Food and Nutrition

Stew	Italian pizza and pasta	American diner	Afternoon tea
Ghalia Mahmoud An Egyptian chef who produces meals that are simple, affordable and cost under $4 a day. Ghalia believes that the secret of preparing a delicious meal lies in the method of cooking it and not necessarily in the ingredients used. “What matters in Egyptian cuisine is nafas (breath), or the spirit one puts	**Antonio Carluccio** An Italian chef, restauranteur and food expert based in London. Wrote twenty books on Italian cuisine. Cooked for 50 years and there are 30 restaurants Famous for his vegetable pasta dish.	**James Andrews Beard** An American cook, cookbook author, teacher and television personality. A champion of American cuisine who taught and mentored generations of professional chefs and food enthusiasts. Championed the message of good food, honestly prepared with fresh, wholesome, American ingredients.	**Mary Beeton** Isabella Mary Beeton, known as Mrs Beeton, was an English journalist, editor and writer. Her name is particularly associated with her first book, the 1861 work ‘Mrs Beeton’s Book of Household Management.’

	into the cooking. If you're good on the inside, the food will be tasty."			
1.	**Understand the eat well plate and what we need for a healthy balanced diet** • A healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide • Each type of food helps the body in different ways: Protein – growth/repair Carbohydrates - energy Fats/sugar – energy but not much nutrition Dairy – calcium Fruit and veg – vitamins. • To be active and healthy, nutritious food and drink are needed to provide energy for the body. **Vocabulary: Eatwell plate, healthy, balanced, protein, carbohydrate, fats, sugar, dairy, nutritious** **Red pen link: How healthy is my diet? Could I add/cutback on any food groups in order to make improvements?**	**I understand that fruit and vegetables are seasonal and grow best at different times of the year** • Fruit and vegetables are seasonal as they grow best at different times of the year. • Some like to grow when the weather is cooler, like in autumn or winter. Some prefer it when the weather is warmer, like in spring or summer. • If a food is in season, this means that it has finished growing and it is now ready to harvest and eat. • Seasonal food tends to be fresher and have more flavour than food that is out of season. This is because it can be grown locally at the right time of year and therefore it doesn't need to travel too far. • Some examples are: **spring:** radishes, spring greens and rhubarb. **summer:** strawberries, raspberries and tomatoes. **autumn:** blackberries, pumpkin and beetroot. **winter:** sprouts, apples and pears	**I know how our food originates and how it is produced and transported** • All food is grown, reared or caught • Foods that are grown - fruit, vegetables, grains • Foods that are reared -poultry and cattle • Foods that are caught - fish, cattle • Raw ingredients are food items that haven't been cooked or processed. They are the basic building blocks of food, often in their natural state, before being used in other recipes or processed further e.g. wheat – bread • Food is transported around the world called imports and exports **Vocabulary: originates, caught, reared, grown, natural state, import, export, processed** **Red pen links: How diets have changed over time – people in the past ate more food in it's natural state and could be produced in their own country.**	**I know facts about Isabella Mary Beeton and understand the importance of her work** • Isabella Mary Beeton is known as Mrs Beeton. • She was an English journalist, editor and writer. • Her name is particularly associated with her first book, in 1861 "Mrs Beeton's Book of Household Management" which became a guide for Victorian housewives advising on cooking to childcare and etiquette. • It is one of the most popular cookery books ever published and is still in print today. **Vocabulary: household management, housewife, domestic service, etiquette,** **Red pen link: link back to the Suffragettes (Y5). Mrs Beeton was frowned upon as a woman of her social status should not be doing the work of a domestic servant.**

		• Foods can be imported/exported so we can buy it all year round **Vocabulary: seasonal, Autumn, Spring, Summer, Winter, fruit, vegetables** **Red pen link: How many portions of fruit and vegetables should we eat per day? As well as eating healthy food, how else can we help our bodies to stay healthy?**		
2.	**I can chop, peel, slice and cut using a variety of utensils** • Use a range of techniques such as chopping, slicing, peeling, grating, cutting • Prepare ingredients using appropriate cooking utensils e.g. peeler, crusher, grater, knife **Vocabulary: cut, chop, peel, slice, utensils, peeler, crusher, grater, Eatwell Plate** **Red pen link: Food hygiene – wash hands before preparing food**	**I know foods grow in different countries due to the weather and climate** • Different foods need certain conditions to grow. • Heat, humidity, sunlight hours and rainfall all play a part in which foods a country can grow. • Whilst we can get many of these foods in our local shops, they have often been grown in different countries around the world, with different climates • The weather and climate are two factors that can determine the types of food that a country can grow naturally. the weather refers to the short-term conditions of an area. For example, it could be rainy today, but it might be sunny tomorrow. The climate describes the average weather conditions of	**I understand that food can be cooked in different ways** • Define boiling/simmering, baking/roasting and discuss the differences. • Boil, simmer, bake, roast, fry, grill potatoes. Taste and compare (school cook) **Vocabulary: boiling, simmering, roasting, baking, temperature** **Red pen link: apply the principles of a healthy and varied diet** **Understand links to obesity and how we can prevent this with our diet**	**I understand how and why afternoon tea became important in Victorian England (link to history)** • Afternoon tea is a tradition started in the 1800's when Anna, Duchess of Bedford, a close friend of Queen Victoria complained of "having that sinking feeling" during the late afternoon. **Vocabulary: etiquette, contents, expectations** **Red pen link: etiquette at the dining table, in a restaurant**

		an area over a longer period of time. A country's climate depends on where it is in the world. • The types of food a country can grow will impact on what the people living there will eat in their everyday diet. These are known as staple foods. People tend to eat the staple foods in their country more often because they are easily grown locally and are readily available. This is why countries have 'traditional dishes' that are often based on these staple foods. • Some staple foods include rice (Chine), corn (Mexico), potatoes (UK). **Vocabulary: humidity, climate, staple foods, traditional dishes** **Red pen link: with improved transport we can eat a more varied diet, but food miles have an impact on the environment**		
3.	**I can work together to cook a healthy meal following a recipe** • As a group, follow a recipe looking at the ingredients and method • With support, use a heat source to cook ingredients showing awareness of safety • Cook a savoury soup/stew using a range of cooking techniques e.g.	**I can chop, peel, slice and cut using a variety of utensils and follow a healthy recipe** • Use a range of techniques such as chopping, slicing, peeling, grating, cutting • Prepare ingredients using appropriate cooking utensils e.g. peeler, crusher, grater, knife	**I can use a range of different preparation skills using different kitchen utensils** • Use a range of techniques such as chopping, slicing, peeling, whisking, grating, cutting • Prepare ingredients using appropriate cooking utensils e.g. sieve, crusher, grater, knife, peeler, masher.	**I understand and can apply the importance of a healthy and varied diet whilst planning a meal** • Understand and apply the principles of a healthy and varied diet. • Recap that foods are split into different groups and benefit us in different ways

	boiling, simmering, stewing, safely and hygienically **Vocabulary: ingredients, method, savoury, stew, techniques, boil, simmer, hygiene** **Red pen link: safety in the kitchen**	**Vocabulary: cut, chop, peel, slice, utensils, peeler, crusher, grater, Eatwell Plate** **Red pen link: safety in the kitchen**	**Vocabulary: chopping, slicing, grating, peeling, whisking, mashing, sieving, crushing** **Red pen links: allergies and intolerances**	• Apply knowledge of the food groups when planning and preparing dishes and ensure it is a healthy, balanced meal • Design a menu for a healthy afternoon tea **Vocabulary: protein, fat, carbohydrate, dairy, starch, vitamin, sugar, fats, balanced** **Red pen link: kitchen hygiene, cross contamination - the transfer of harmful bacteria from one food source to another including direct contact, contaminated surfaces, or even airborne particles.**
4.	**Evaluate ideas and products against a design criteria and consider the views of others to improve work** • Evaluation is the process of deciding if you've done something the best way, and looking at what could be improved. • Evaluate ideas, ingredients, methods and products against the design • Compare finished products to original aims, discussing how they are different and why • Explain how good the product and why and explain ways it could be made better	**I can cook a healthy meal following a recipe and weighing ingredients** • Start to independently follow a recipe (vegetable pasta) • Measure and weigh ingredients • With support, use a heat source to cook ingredients showing awareness of the need to control the temperature • Understand and apply the principles of a healthy and varied diet and understand how what we eat can be made healthier **Vocabulary: temperature, recipe, method, ingredients** **Red pen link: safety when using an oven/hob. First aid to treat a burn**	**I can independently follow a recipe weighing and preparing ingredients** • Independently follow a recipe (healthy burgers, sweet potato fries) • Measure and weigh ingredients accurately • Prepare each ingredient using the appropriate method e.g. peeler, knife to slice and dice • Use a heat source to cook ingredients showing awareness of the need to control the temperature **Vocabulary: chopping, slicing, grating, peeling, boiling, simmering, roasting, baking, temperature** **Red pen link: safety when using kitchen utensils**	**I can identify the difference between good and bad processed foods** • Food is processed to give us lots of variation in what we are eating and to make raw foods stay fresher for longer • Processed food can be unhealthy due to the salt, sugar, fat which is added • Not all processed food is bad, some need processing to make them safe e.g. milk • Follow the journey of processed foods e.g. tomatoes, potatoes, grains **Vocabulary: processed, unprocessed, healthy, unhealthy, raw**

	Vocabulary: evaluate, improve, compare, product **Red pen link: always look for ways to improve**			**Red pen link: how diets have changed - unprocessed, imports, exports, multicultural dishes, fast food places, obesity**
5.	**I understand that evaluation is important to ensure products are made to the highest standard.** • Evaluation is important as it is how you can make sure appropriate decisions have been made, work has been done to the highest possible standard and the product is fit for purpose • Evaluate ideas, materials, methods and the product against the original design discussing • Explain what went well and what could be changed to further improve the buggy identifying why some things did not go to plan • Refer to the original design criteria as the product ais being made and evaluate each step as they work • Consider the views of others to improve their work and try out suggested modifications **Vocabulary: design, evaluate, standards** **Red pen link: learn from my experiences for the future**	**I can evaluate my product and suggest ways to make improvements** • Know that evaluating means judging the quality of something you've done, checking if it has been done the best way and seeing what improvements could be made. • Evaluate ideas, ingredients, methods and products against the design criteria and say how good the product is and why • Compare finished products to original intention and explain how they could be better • Consider the views of others to improve work **Vocabulary: evaluate, success criteria, improvements** **Red pen link: Learning powers evaluating and being a critical thinker** **Do we always get things right the first time?**	**I understand that evaluation is important to ensure products are made to the highest standard.** • Evaluation is important as it is how you can make sure appropriate decisions have been made, work has been done to the highest possible standard and the product is fit for purpose • Evaluate ideas, ingredients, methods and the product against the original recipe evaluating the taste. Do they like it? Why? Why not? • Explain what went well and what could be changed to further improve the recipe identifying why some things did not go to plan • Refer to the original design criteria as the product ais being made and evaluate each step as they work. • Consider the views of others to improve their work and try out suggested modifications **Vocabulary: evaluate, salty, sweet, bitter, runny, thick, strong, bland** **Red pen link: Thanksgiving**	**I can prepare and cook food using a variety of techniques** • Prepare and cook a variety of dishes using a range of cooking techniques e.g. boiling, baking • Use a range of techniques e.g. sieve, rolling, kneading, piping, slicing, tossing, spreading • Use appropriate cooking utensils e.g. rolling pin, sieve, piping bag, grater, knives, peeler • Measure ingredients accurately and calculate ratios of ingredients to scale up or down from a recipe • Work safely and hygienically • Independently follow a recipe looking at the quantity **Vocabulary: knead, pipe, toss, scale, quantity** **Red pen link: when catering for others, be aware of dietry requirements and allergies.**

6.			**I can adapt and refine recipes by adding or substituting one or more ingredient** • Adapt and refine recipes by adding/substituting ingredients • Make adaptations according to likes/dislikes, tastes, according to seasonable availability or health value **Vocabulary: adapt, refine, substitute, seasonal, import, export** **Red pen link: What we eat can be made healthier or healthier versions can be purchased** **Imports/exports - the impact on the environment**	**I can critically evaluate the quality of our own and others designs** • Know that evaluation can help us make sense of processes and outcomes. It is a way of exploring options and figuring out what might need to change. It provides evidence-based judgements about the effectiveness of the process or product • Critically evaluate the quality of their design, ingredients, manufacture and fitness for purpose • Identify ways improvements could have been made, explain why some things did not go to plan and make modifications based on what they now know. • Consider the views of others to improve work and try out suggested modifications **Vocabulary: critically compare, identify features, evaluate products, original design, identify improvements, purpose, preferences** **Red pen link: Make adaptations to suit others' lifestyles e.g. vegetarian, Muslim, allergies/intolerances**

National Curriculum

Design

Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups;
Generate, develop, model & communicate their ideas through discussion, annotated sketches, cross-sectional & exploded diagrams, prototypes, pattern pieces & computer-aided design.

Make

Select from and use a wider range of tools and equipment to perform practical tasks [for example, 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.

Evaluate

Investigate and analyse a range of existing products;
Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work;
Understand how key events and individuals in design and technology have helped shape the world.

	Year 3	Year 4	Year 5	Year 6
	Moving Parts **Pit headstocks** **Young and Purves** The headstocks at Clipstone Colliery were designed by Young and Purves. Built in 1953, they were the tallest structures of their type in Europe at the time.	**Electrical Systems** **Lights and batteries** **Allessandro Volta** The electric battery was invented by Italian physicist Alessandro Volta. His invention provided the first source of continuous current. The word volt/voltage comes from Volta's name.	**Electrical Systems** **Crumble** **Henry Ford** Created the first automobile for middle class Americans in 1903 Developed mass production techniques.	**Moving Parts** **Automata** **Kazuaki Harada** A creator of wooden moving toys Became interested in 2002 Harada's first completely self-designed and self-made automaton called *Exercise* (2006), features a pig lifting dumbbells and remains one of his favourite creations.
1.	**I know who Young and Purves were and why they were important.** • Discuss photos of the headstocks. Discuss design, joins, strength • The headstocks at Clipstone Colliery were designed by Young and Purves **Vocabulary: architect.**	**I can develop ideas for a design through research** • Use research to examine who designed similar products, how products were designed and for what purpose/audience. Use this information to help design similar products	**I understand the importance of Henry Ford's contribution to the world and the impact he has had on life today** • Ford created the first automobile for middle class Americans. • He did this through the development of mass production techniques, including the moving	**I can investigate and analyse a range of existing products** • Look at early examples of automata/mechanical toys from Victorian times. Why were toys designed in this way? Who were they for?

	Red pen link: Why were Young and Purves important to the local area?	• The electric battery was invented by Italian physicist Alessandro Volta. His invention provided the first source of continuous current • Consider why products were developed and describe the purpose of their product • Develop, model and communicate ideas through annotated sketches taking account of user needs and resource availability using knowledge of existing products. **Vocabulary: design, criteria, audience, purpose, gather information** **Red pen link: the process of market research, audience, purpose is vital for anyone trying to sell a new product. Has anyone watched Dragon's Den?**	assembly line, which drastically reduced production costs and prices. • The Ford Model T was first produced in 1908. • The affordability of cars contributed to the growth of towns, and leisure travel. **Vocabulary: design, automobile, assembly line, affordability, contribution** **Red pen link; pollution, effects on the planet**	• Use research to examine who designed similar products, how products were designed and who they were for as the designs changed. • Look at modern day automata, focusing on the work of Kazuaki Harada. Notice how cams and followers make them work. • Compare these to the early automata/mechanical toys, tracking changes in development and innovation of the product over time. **Vocabulary: purpose, research, preference**
2.	**I can investigate different methods of creating a pulley.** • Know a pulley is a simple machine that makes it easier to lift things by changing the direction of the force needed, or by reducing the amount of force needed. • Know a pulley works by using a wheel with a groove that a rope or cable can run around. When you pull on one end of the rope, the wheel turns and lifts the object attached to the other end	**I can make a step by step plan and design using a success criteria** • Describe how the product has evolved over time – first decorations were branches, fruits, berries, flowers • Create a labelled step by step design plan • Pattern pieces – templates used as an outline for cutting • Make and describe the design processes of pattern pieces used prior to making a product.	**I understand how cross-sectional and exploded diagrams are examples of design techniques** • Use research to examine who designed similar products, how products were designed and for what purpose/audience. Use this information to help design similar products • Draw cross-sectional and exploded diagrams to develop and communicate ideas using knowledge of existing products.	**I know how cam mechanisms work and can make a prototype** • Look at the movements of a range of cams, noticing how the shape of the cam affects the movement of the object. • Identify that a moving toy includes cams, levers and linkages. • Identify modern-day products which use cams (engines, bikes, electric toothbrushes). • In pairs, make cams out of card using the template and investigate

	• Investigate how to create a pulley (art straws, wooden dowls, string etc) and how this could be attached to the sides (through a hole, with tape, glue, blue-tac etc) **Vocabulary: pulley, groove, join** **Red pen link: LP - independence, creativity**	**Vocabulary: design, criteria, audience, purpose, gather information** **Red pen link: the importance of planning and being prepared**	• Exploded – shows component parts disassembled so each can be seen on its own. • Cross sectional – shows a view or drawing of what the inside of something looks like after a cut has been made across it • Match components to the correct name and discuss what each component does **Vocabulary: design, lunar, programme, crumble, exploration, sparkle, battery pack, motor, wheel, crocodile leads, USB cable, exploded diagram, cross sectional diagram**	how they move. Know that this is a prototype. **Vocabulary: prototypes, cams, doweling, follower, movement, linear**
3.	**I can draw and label a design to make a headstocks** • Draw a labelled sketch to plan and design a product • List materials needed to make the product and identify the tools and equipment needed **Vocabulary: design, sketch**	**I can develop step by step plans as a guide to make my product** • Draw step by step annotated diagrams to plan and design the product, electrical circuit and plan out where it will fit into their design • List materials needed to make the product and identify the tools and equipment needed **Vocabulary: annotated sketches, devise, circuit, resources** **:**	• **I can select and use appropriate materials and components to build and program a buggy** • Select from and use a wider range of components and equipment to perform practical tasks (crumble buggy) • Follow step by step instructions and use different designs to assemble the buggy • Follow the computer programming steps to program the buggy to go forwards, to reverse, to turn and to change the colour of the LED **Vocabulary: components, program, reverse**	**I can apply my research to generate a computer aided design** • Describe the design processes of cross-sectional and exploded diagrams. Know how computer-aided design can show this too. • Use knowledge of cams to ensure optimum movement by choosing an appropriate cam for their anticipated movement. • Make computer aided design decisions, considering carefully the time and resources available. • Work out a projected cost of your planned model. • Generate, develop, model and communicate their ideas through discussion, cross -sectional and

				and computer-aided design using knowledge of existing products. • Ensure children understand and use correct mechanical systems in their product (cams, levers, linkages and followers). **Vocabulary: annotated sketch, exploded diagram, detailed design, design proposal, materials, components** **Red pen link: make links to previous DT units- creating a design**
4.	**I can use my design to make the finished product** • Select from and use a range of tools and equipment to perform practical tasks eg; cutting, joining • Mark out and cut materials and components with increasing accuracy. • Refer to their original design criteria as they make the product and evaluate its use as they work **Vocabulary: evaluate, peer assess** **Red pen link: LP: resilience**	**I can follow my step-by-step design to make the finished product** • Select from and use a wider range of tools and equipment to perform practical tasks (eg; cutting, shaping, joining and finishing), accurately • Measure, mark out and cut materials and components with increasing accuracy. • Refer to their original design criteria as they make the product and evaluate each step as they work • Know that materials have both functional properties and aesthetic qualities e.g. hardness, waterproof, insulation, protection • Understand and use electrical systems in the products (series of	**I understand that evaluation is important to ensure products are made to the highest standard** • Evaluation is important as it is how you can make sure appropriate decisions have been made, work has been done to the highest possible standard and the product is fit for purpose. • Evaluate ideas, materials, methods and the product against the original design • Explain what went well and what could be changed to further improve the buggy identifying why some things did not go to plan • Refer to the original design criteria as the product ais being made and evaluate each step as they work.	**I can select appropriate tools and skills to create a product that is fit for purpose** • Accurately measure, mark out, cut, score and shape a range of materials and components • Accurately assemble, join and combine materials and components • Present a finished product **Vocabulary: equipment, materials, components, measure, cut, shape, movement, cams** **Red pen link: Links to previous learning- joining, strengthening, selecting appropriate materials and tools**

		circuits incorporating switches/bulbs) demonstrating how electrical systems have an input and output process. **Vocabulary: mark out, functional, aesthetic, circuit** **Red pen link: Learning powers resilience, persistence, being absorbed in the task**	• Consider the views of others to improve their work and try out suggested modifications **Vocabulary: design, evaluate, standards**	
5.	**I can evaluate ideas and products against a design** • Know that evaluating is the process of deciding if you've done something the best way, and looking at what could be improved. • Evaluate ideas, materials, methods and products against the design criteria • Compare finished products to original designs, discussing how they are different and why • Explain how good their product is, listen to the views of others and explain ways they could make it better **Vocabulary: designs, evaluate, improve, method, materials** **Red pen link: learn from my experiences for the future**	**I can evaluate my product against the success criteria** • Know that evaluating means judging the quality of something you've done, checking if it has been done the best way and seeing what improvements could be made. • Evaluate ideas, materials, methods and products against the design criteria and say how good the product is and why. • Compare finished products to original design, and explain how they could be better. • Consider the views of others to improve work. **Vocabulary: evaluate, success criteria, improvements** **Red pen link: Learning powers evaluating and being a critical thinker** **Do we always get things right the first time?**		**I can apply my knowledge to critically evaluate the quality of our own and others designs** • Know that evaluation can help us make sense of processes and outcomes. It is a way of exploring options and figuring out what might need to change. It provides evidence-based judgements about the effectiveness of the process or product. • Critically evaluate the quality and manufacture of their design and product. Refer back to prototypes and designs. • Identify ways improvements could have been made, explain why some things did not go to plan and make modifications based on what they now know. • Consider the views of others to improve work and try out suggested modifications

				Vocabulary: critically compare, identify features, evaluate products, original design, identify improvements, purpose, preferences **Red pen link: take on advice and the ideas of others in order to improve and learn**
	Structure	**Sewing**	**Structure**	**Sewing**
	Year 3	**Year 4**	**Year 5**	**Year 6**
	Structures **Roundhouses** **Kengo Kuma**	**Sewing** **Viking Money bag** **Samuel Parkinson**	**Structures** **Bridges** **Horace Jones** **Isambard Kingdom Brunel**	**Sewing** **Pencil case** **Vivienne Westwood**
1.	**I understand who Kengo Kuma is and his contribution to architecture.** • Kengo Kuma is a Japanese architect. He is the designer of the New National Stadium, Tokyo (circular) which has been built for the 2020/21 Olympics. • He also designed the wood-wrapped (circular) exchange building in Darling Square, Sydney, Australia. The six-storey civic centre is wrapped in 20,000 metres of light-coloured wood that is arranged in a 'dynamic and exciting manner' to offer passers-by glimpses of activity inside. • Kuma's aim is to achieve architecture that is as open as possible to the community, and that is reflected in the circular	**I can research the purpose and design of a Viking money bag** • In 1841, entrepreneur Samuel Parkinson realized the problem of his wife's purse being way too small and not strong enough. He ordered handbags in a variation of sizes for his wife. He requested them to be made in the same fine leather as his own bags for them to be as durable and suit her every need and occasion. This is the first idea of the modern handbag • Use questions to research the purpose and design of a Viking money bag ○ What was their purpose? ○ Who would have used them? ○ What were they made from? ○ Why were they used?	**I can identify significant figures within bridge design and analyse a range of existing products** • Introduce photos of famous people - no names or context. What impact have they had on the world? On our lives? • OUTSIDE in 2 groups: using blanks of wood, encourage children to explore the 'bridge' and think of any questions they have. ○ What different types of bridges are there? ○ What uses do they have (purpose)? ○ What are they made of? ○ What/who uses them? ○ How do they move? • Children then use ipads to answer research questions they have	**I understand Vivienne Westwood's contribution to fashion and her influence on sustainable fashion** • Dame Vivienne Westwood was a British designer, born in Derbyshire (1941-2022). • Vivienne Westwood used her fashion designs to express her thoughts and feelings about topics she cared about, like Climate Change. • Her designs were part of a movement known as punk that became popular in the 1970s. She often used materials such as tartan and tweed. • She encouraged people to buy less fast fashion and keep wearing clothes that they love instead of replacing them when they get

	shape that creates a building that is accessible and recognisable from multiple directions. • Compare the architecture to Bronze Age roundhouses **Vocabulary: architect, designer, storey, dynamic, multiple, accessible** **Red pen link: Dare to be different**	○ How did fulfil their purpose? **Vocabulary: design, purpose, audience, research, durable** **Red pen link: what are the similarities and differences between a Viking money bag and a modern-day purse?**	created. Sketches and annotations should be made of the different types of bridges. **Vocabulary: Cantilever, arch, truss, cable-stayed, suspension, beam, purpose, design** **Red pen link: Transport was made easier by bridges. For example, Tower Bridge designed by Sir Horace Jones and Sir Wolfe Barry.**	bored. • Westwood used fabrics that were sustainable, friendly to the environment and would last a long time. **Vocabulary: influence, designer, sustainable, fast fashion, eco-friendly, fabrics** **Red pen link: Link to writing topic- Plastic Planet**
2.	**I can develop design ideas to plan a project** • Design a modern round house using sketches. • Label sketches with step by step ideas include possible materials. • Show size and scale within the sketches. **Vocabulary: scale, step by step, sketches, design** **Red pen link: planning helps organisation. Without a plan, you may feel overwhelmed.**	**I can use running and back stitches and know these can be used for hems and seams** • Running and back stitches can be used to join materials and make hems. • Running stitch - Push the needle up from the back of the fabric, move your needle one stitch length forward and pierce through the fabric from the front of the back. • Back stitch – a strong sewing stitch made by starting the next stitch at the end of the preceding one. **Vocabulary: thread, needle, eye, running stitch, back stitch, hem, seam**	**I can investigate how mechanical systems create movement (pulleys, levers, cogs)** • Show children fulcrum point in order to balance weight distribution within mechanical systems • Children use card to create a lever with split pin in order to create movement within a mechanical system (practical) • Children are shown how to create a pulley using different gears to bear weight and move a weight in order to create movement within a mechanical system **Vocabulary: mechanical systems, movement, pulleys, levers, components, assemble** **Red pen link: what impact has this had on modern day life?**	**I can evaluate current products to produce a design criteria showing what makes an effective pencil case** • Explain that we will be designing a pencil case. • Discuss what a product brief is. Come up with a purpose for our product and an audience (who we will be making it for). • Use IPads to look into other designs • Evaluate current products answering a range of questions: ○ What is effective/ not effective? ○ Which is the best type of fastening? ○ Does it fulfil its purpose? ○ Does the design appeal to its target audience? **Vocabulary: purpose, preferences, research, innovation, detailed designs, audience, effectiveness**

				Red pen link: previous learning- Y4 money bags
3.	**I understand how to assemble and join materials effectively for strength and endurance** • From a selection of tools and materials, choose the most suitable for the task of building a sturdy roundhouse. • Assemble, join and combine materials accurately with strength (test: glue, sellotape, masking tape, paper clips, split pins, blu-tac). • Adapt plans to develop knowledge strengthening techniques. **Vocabulary: sturdy, assemble, accurately, strengthen** **Red pen link: learning powers – adaptations to make things better**	**I can design a drawstring Viking purse using step by step instructions and a design template** • Identify tools and equipment needed to complete the task • Develop step-by-step plans as a guide to making their products. Annotate with notes from research identifying what needs to be done sequentially **Vocabulary: annotated sketch, original design**	**I understand how to strengthen, stiffen, steady and reinforce more complex structures** • Work through key vocabulary together. Can we define them? • Show children images of tall structures and outline what makes a complex structure. • Identify triangles are a strong shape commonly used within complex structures and particularly within bridge design. • Investigation: Use lollipop sticks and plasticine to make a 3D structure in order to hold a weight to find the best structures to use within their design. • Watch videos for children to understand strong foundations, strong shapes, stacking materials and weight distribution. **Vocabulary: materials, components, properties, strength, strengthen, stiffen, rigidity, steady, reinforce, complex structures** **Red pen link: the importance of strengthening structures for public safety possible link to Grenfell tower safety precautions**	**I can carefully produce a range of stitches, knowing when each one is best used** • Introduce new types of stitch- blanket stitch, cross stitch, zig-zag stitch. • Practise producing each stitch. • Discuss the purpose of these stitches: blanket stitch is a practical stitch used for strengthening seams (and can be used as an alternative to the back stitch), whereas cross stitch and zig-zag stitch can be used for decorative purposes. **Vocabulary: zig-zag stitch, cross-stitch, blanket stitch, back stitch, running stitch, seam, strengthen, join**
4.	**I can join materials to create a sturdy roundhouse**	**I can apply the skills I have learnt to make a final product**	**I can plan a model using computer aided design**	**I can investigate a range of fastenings and their effectiveness**

	• Select from a range of construction materials in order to make strong, stiff shell structures e.g. paper, card, corrugated card, lolly sticks. • Select from and use a wide range of equipment to perform practical tasks (eg; cutting, shaping, joining and finishing), accurately. • Follow step-by-step plans as a guide to making their products and order the main stages of making the product. • Measure, mark out and cut materials and components with some accuracy. **Vocabulary: sturdy, assemble, accurately, strengthen**	• Measure, mark out (making a seam allowance) using a pattern, pin and cut fabric • Join the fabric using running or back stitch **Vocabulary: pattern pieces, measure, cut, assemble, join, strength, seam, aesthetically pleasing** **Red pen link: When time and effort is invested into a project it can end with a feeling of pride.**	• Show children a range of different annotated sketches explaining the purpose of them and why we use them. • Recap the materials we will be using and create a list of materials that they will use. • Create a computer aided design of what their bridge may be like labelling the key components such as pulley and lever systems. Ensure children note down how their bridge will move. **Vocabulary: annotated sketches, ideas, diagrams, purpose, resources** **Red pen link: The importance of planning for success whilst understanding the need for adapting planning throughout the process**	• Brainstorm different types of fastening on the board (link back to when we evaluated current products) • Focus on Velcro, zip, button, press stud • Model the methods for attaching these to a piece of fabric • Children choose two of the methods to practice and decide which one will be the most effective for their pencil case **Vocabulary: press stud, zip, velcro, button, fastening** **Red pen link: being a critical thinker- what are the pros and cons to each fastening?**
5.	**I can valuate ideas and products against a design** • Evaluation is the process of deciding if you've done something the best way, and looking at what could be improved. • Evaluate ideas, materials, methods and products against the design • Compare finished products to original designs, discussing how they are different and why • Explain how good a product is and explain ways they could make it better	**I can evaluate and refine a product to make improvements** • Evaluate ideas, materials, methods and products against the design criteria and say how good the product is and why. • Compare finished products to original design, and explain how they could be better. • Consider the views of others to improve work. **Vocabulary: evaluate, improve, method, materials, success criteria**	**I can create a bridge with a working mechanism** • Select from and use a wider range of tools and equipment to perform practical tasks (eg; cutting, shaping, joining and finishing), accurately. • Select from and use a wider range of materials and components according to their functional properties. • Measure, mark out and cut materials and components with increasing accuracy. • Assemble, join and combine materials with increasing accuracy.	**I can design a pencil case using exploded plans** • Re-cap the design brief, focussing on the purpose and target audience • Show children the materials that they will have available and recap the skills they have learnt • Use exploded diagrams to show the design. • Make design decision, using knowledge of stitches and fastenings to ensure a working pencil case is designed that uses a

	Vocabulary: designs, evaluate, improve, method, materials **Red pen link: learn from my experiences for the future**	**Red Pen Link: Learning powers- evaluating and being a critical thinker** **Do we always get things right the first time?**	**Vocabulary: accurately, components, function, assemble**	range of stitches and chooses the best fastening. Consider carefully the time and resources available. • Work out a projected cost of your planned model. • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross -sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design using knowledge of existing products (they must include at least 2 new types of stitch) **Vocabulary: design, annotated sketch, target audience, design brief, purpose**
6.			**I can self and peer assess the effectiveness of a product and use this to make improvements** • Showcase finished products to peers especially how they move. • Use gallery techniques with oracy sentence stems on board to evaluate each bridge against the identified criteria. • Consider the views of others to make suggestions to improve their work. **Key vocabulary: compare, identify features, evaluate, original design, identify improvements** **Red pen link: Did all the products go as planned? Does this matter? Why/Why**	**I can apply the skills I have learnt to make my pencil case** • Accurately measure, mark out, cut, score and shape a range of materials and components • Accurately assemble, join and combine materials and components • Present a finished product **Vocabulary: all of the above**

			not? Did great inventors succeed the first time? Link to LP.	
7.				**<u>I can apply my knowledge to critically evaluate the designs and products made, identifying strengths and areas to improve and how these can be achieved</u>** • Know that evaluation can help us make sense of processes and outcomes. It is a way of exploring options and figuring out what might need to change. It provides evidence-based judgements about the effectiveness of the process or product. • Critically evaluate the quality of design, manufacture and fitness for purpose. • Identify ways improvements could have been made, explain why some things did not go to plan and make modifications based on what they now know. • Consider the views of others to improve work and try out suggested modifications **Vocabulary: critically compare, identify features, evaluate products, original design, identify improvements, purpose, preferences**

				Red pen link: take on advice and the ideas of others in order to improve and learn