Progression Ladder: Design and Technology

Design and Technology Intent

Our scheme of work is formed from the statutory framework for both the EYFS and the National Curriculum. While this scheme of work is knowledge-based, skills are at the heart of the subject. The scheme is enhanced by a variety of opportunities to form bonds with the local community, including projects and trips and visits. These help our children to improve their understanding of where they live and to widen their experience of North West England.

We have gone beyond the requirements of the EYFS and the National Curriculum to create a scheme of work that is both ambitious and that gives our children a worldwide perspective. The needs of our children mean that we have ensured that reading skills, language and vocabulary development are key features of design and technology. The scheme has been designed and planned to allow children to learn knowledge and practise skills that are vital for later life, such as: questioning, problem solving, resilience, free-thinking, confidence, curiosity and presenting skills. There are planned end points for pupils to attain in every project, and at the end of each year. The knowledge and skills have been sequenced carefully to maximise the learning of our children; repetition has also been planned where appropriate to help children retain key knowledge and skills.

Pupils' personal development has been embedded into design and technology; they will have opportunities to develop their social skills, empathy, compassion, respect and British Values. By linking to other subjects where appropriate and making effective use of links to the local and global community, the pupils' moral and cultural understanding is also developed. Equality and diversity are vital to everyone at St. Margaret's. The scheme of work has been designed to give pupils a broad understanding of different groups in modern society, including: faith, culture, gender and gender identity, ethnicity, culture, disability, sexuality and age.

The design and technology scheme has been designed and planned to develop pupils' practical skills and to be able to apply both knowledge and skills in a variety of real-life contexts. Enrichment has also been embedded into the scheme; it provides learning experiences that our children would not be expected to have access to, regardless of their background. By giving pupils these opportunities, above the requirement of the EYFS and National Curriculum, the subject is both enhanced and extended.

We have a number of international new arrivals at St. Margaret's. Where possible, these children will follow the same content as their peers within design and technology. However, for the first few months of transitioning into St. Margaret's, their curriculum will prioritise reading skills, language acquisition and writing. Pupils who are disadvantaged and who have special needs and/or disabilities cover the same content as all pupils. Where pupils have specific needs, they will be withdrawn occasionally from a range of lessons for specific interventions that are tailored to their needs. Where a pupil has severe needs, they will have a bespoke curriculum that is matched to their education, health and care plan.

D/T	**Nursery**	**Reception**	**Year one**	**Year two**	**Year three**	**Year four**	**Year five**	**Year six**
Knowledge – by the end of the year pupils should know:								
Autumn One	**Creating with Materials:** Large Construction • To know different large construction materials e.g. wooden bricks, pipes • To know different types of foods at the snack table e.g. orange, apples, milk, carrots	**Creating with Materials:** Junk Modelling • To know how to balance and build with large construction materials e.g. make a bridge over something • To know how to junk model with purpose	Make a Tray/open box (woodwork) • Know how to make a 90 degree join with wood. Know the term 'basic butt' join. • Know what joins do not work and why they do not work. • Know the function and use of a tray to carry things for example, a tray of autumn fruit and leaves.	Make Soup • Understand why a diet has a variety of different food. Food. • Know that fruit and veg are part of a healthy diet. Know what 5-a-day means. • Understand that all foods are farmed, grown or caught. • Know how and where vegetables grow: potatoes, carrots, beans, peas, butternut squash, sweet potatoes and onions. Know how to recognise different types of the same vegetable.	Make a sieve out of different materials that will sift marbles, sand, soil, and another rock such as gravel. • Know that different sized holes can be used to let some objects through and stop others. • Know how different sieves work.	Archimedes screw (mechanisms) • Know how water wheels work. • Know how canals and locks work. • Know how it is used in chocolate fountains, in sewage plants and in combine harvesters. • Know how to make a prototype to lift water from one place to another or solids.	Winter hat (textiles) • Know how to combine knit and purl stitches. • Know how to make a knitted hat. • Know how to make a pom pom and attach it to a hat.	Wind instruments (woodwork) • Know how wood can make sounds. Know how wooden tubes can be blown to make a sound. • Know how to refine and shape wood to make the sound different, Know how to measure accurately in millimetres. • Know what happens when you drill a hole. Understand the concept of drill bits. Learn how to steady something so that it cannot move before drilling.

Autumn Two	**Creating with Materials:** Small Construction • To know the different types of small pieces of construction toys e.g. Lego	**Creating with Materials:** Large Construction • To know how to balance and build with large construction materials e.g. make a bridge over something • To know how to junk model with purpose	Firework decoration (textiles)  • Know that fabric is joined differently to wood because of the material. • Know how to make a simple wooden frame for their finished wheel. • Know how to sew using the whip stitch.	Beebots (control tech), route beebots over a course. Learn how to programme them to go left, right, straight on and back. • Know that you have to programme in a distance to make the Beebot move. • Learn that instructions are important otherwise it will not know what to do.	Know how to make a Scarf (textiles), for example a Gryffindor scarf. • Know how to make a slip knot and place it on a knitting needle. Know how to cast on and off. • Know how to make knit stitches.	Ear muffs (textiles) • Know and explain which material is most suitable for tasks • Know about the variety and range of muffs and what they are made from. • Know how to test ear muffs in fair tests. • Know what a prototype is and test a prototype.	Make a Terrarium (junk model) • Know how greenhouses work. • Know what a terrarium is. • Know what plants would need to be able to grow in the terrarium.	Model bicycles (mechanisms) • Apply a variety of complex structures accurately and appropriately. • Know how gears work. • Know how cogs work. • Know how brakes on a bike work. • Know the parts of a bicycle and about different bikes.
Spring One	Den/ Pancakes • To know different ways to make a den. • To know the some of the steps to make a pancake • To name the toppings on the pancakes	Boats out of recycling  • To know what a design is and why we draw out what we	Know how to make a Chinese New Year dragon Using junk model.  • Know why some materials are better than	Make a wooden photo frame for themselves or someone in the community. • Know how to make a 45 degree angle cut. Know the term 'mitred butt join' • Know how to make a hinge for	Know how to use CAD tools to make a 3D modern pyramid for a Pharoah. (control tech) • Know how to draw lines using CAD tools, circles, rectangles, polyline, trim,	Know how to make a functioning volcano. (junk model) • Know and explain which material is most suitable for tasks • Know how to make it stable, stiff and allow	Use cams to make a wooden puppet. • Know what a CAM is, a follower, a slide and a shaft. Know how these combine to make something move. • Know how to create the	Know how to make a balanced meal: starter, main and dessert. Link to a community project such as a meal for Year 6 pupils • Use information on food labels to inform choices. Understand what food

		intend to make be-forehand • To design a 'water-proof' boat • To know what wa-terproof means • To know what an evaluation is	others for different parts. • Know what a New Year dragon looks like.	a photo frame to stand up. Know how to fit a photograph to fit in wooden frame. Learn how to cut wood at an angle. Learn what hinges are for and where they are around school.	copy, mirror and rotate.	for lava to flow. • Know how to make it look like lava is flowing.	wooden frame for a puppet which uses as CAM to make it move. • Know how to join wood with a 'half-lap' join. Re-cap on butt and mitred joins.	labels are saying. Know what calories, fat, sugars, salt and protein mean on labels. Know what kj/kcal means. Know what the % on food labels represent. • Know how to use Mary Berry recipes to plan to cook a three course meal.
Spring Two	Nest/ Egg Design  • To know join-ing pieces of construction toys together can be done with a purpose in mind e.g. make a nest. • To know to draw what we want to make e.g. egg per-son	Clay Ladybird • To know what a design is • To know what clay is • To know how to sculpt a shape out of clay • To know the story of 'What the Ladybird Heard'	Moving eggs with levers (mechanisms). Make a wheelbarrow to move an egg from one place to another. Solve problems. • Know what a lever is and where they are around school and where they live.	Make a boat/raft (junk model) • Explain choices for tools, equipment and materials • Explore techniques to stiffen a variety of materials. • Know that some materials float and some sink. Know how to make something able to float.	Know what pulleys are and how they can help designers. (mechanisms) • Understand how levers and linkages create movement • Know what a fulcrum is, pulley, fixed pulley, moveable pulley, compound	Know how to make a pizza base. • Revise what a balanced diet must consist of. • Know that there are different types of bread. Explore different breads and why pizza base is a particular type of bread.	CAD boat (control tech) • Know how to use CAD to design a boat, ship, canoe etc. • Know the different types of boat and ship. • Know how to interpret a CAD designed boat. • Know what cross section means.	Sustainable fashion (textiles) • Use knowledge of famous designs and existing products to explain why their own design is effective • Know where clothes come from. Understand about sustainable

				• Know how to join different materials.	pulley and block and tackle are. • Know where the load, force or rope are on a pulley system. • Know how pulleys are used in Manchester e.g. cranes, lifts, curtains, water well, to clean windows on a skyscraper, garage doors, escalators, gym equipment.	• Know that different foods provide different substances for a healthy body. Know what bread provides. • Understand how the availability of local food varies by season, for example, herbs. • Understand the advantages of eating seasonal and local food. • Know what a herb is. Know what different herbs are, where and how they grow: basil, chives, oregano, mint, tarragon, coriander.	• Know the parts of a boat and a ship.	fashion such as bamboo fashion.

						• Know how to make a tests a prototype.		
Summer One	**Creating with Materials:** Scissors • To know what we use scissors for • To know how to carry scissors	Fruit Kebabs • To know what fruit is • To name some of the fruits they have at school e.g. apple, banana, orange • To name new fruits on the fruit kebab e.g. strawberries, raspberries	Make a fresh Fruit salad (food tech) • Know that fruit is healthy. • Know that fruit is grown in different ways: trees, bushes, plants. • Know where some key fruit comes from: bananas, apples, oranges, strawberries, pineapple, pear, peaches, raspberries, melons. Say where foods come from. • Know why some fruit needs to be coated in lemon juice. • Know that there are different varieties of the same fruit	Make a hat. (textiles) • Know that there are different types of hat. • Name different hats. • Know that fabric sometimes needs a pattern. • Know how to cut a pattern in fabric. • Know how to use the whip stitch.	Make an A frame roof. (woodwork) • Know how to cut wood with a saw. Know how to measure wood to the nearest centimetre. • Know how to sand wood. • Know that nails can join parts of wood together. • Revise basic butt and mitred joins. Explore box and rebate joins. • Know how to use their skills and knowledge to create something with an A frame, for example,	Light-up game (control tech) • Understand and use electrical systems in products. • Know how toys and games are made that makes something light e.g. the nose on a face. • Know how mini circuits are used in games and quizzes. LINK WTH ICT	Orrery (mechanisms) • Understand how to make more complex mechanical systems. • Know how an orrery works.	Traffic lights (control tech) Know how to apply understanding of computing to program, monitor and control a product • Know how the sequence of traffic lights work. • Know how to make traffic lights function.

			which may look different.		model house, bird box, hedgehog den etc.			
Summer Two	Crossing/ bridge • To know what a crossing is • To know what a bridge is • To know what they are used for	Paper Mache Planet  • To know what a planet is • To know what paper mache is • To know how to approach making something in stages- 'the process'	Make a Buzzer game (control tech). • Know that control technology means when you input or do something, there is an outcome. • Know how we can make a doorbell ring, a video player play, a CD player sound. Look at control technology around school such as door buzzers.	Know how Mobiles balance (mechanisms)  • Know how to make a simple mechanism that balances objects or tilts or moves. • Know that some mobiles have features that move such as Sirius Black's mobile at Grimmald Place.	Stir fry. • Know the food groups in the Eat Well plate and what fits into which group. • Understand that foods are found in different parts of the world. • Know where ingredients of the stir fry come from. • Know which foods are healthy and which are unhealthy food choices. • Know that for a stir fry, you need: oil; protein; vegetables; herbs; sauce.	Make a wooden weather vane (woodwork) • Know to made a structure stable so that it does blow down in the wind or get destroyed by water. • Know how to protect wood. • Know how to add materials to wood so that it turns. • Know what a mortise and tenon join is. • Know that different saws are used for different things: hand saw; hacksaw; back saw; hacksaw; fret saw.	Spice dish - food • Know which nutrients are important for a healthy body. • Know what a spice is and the names of different spices and where they come from in the world: pepper, coriander, cumin etc. • Understand how a variety of ingredients are processed to make them safe, edible and appetising. • Know how to measure ingredients to the nearest gramme.	Up-cycling (junk model) • Know how original designs and products can be re-purposed such as oil cans made into lights. • Know about how products have to be made economically. Know how people make profit from products.

						• Know how to measure wood to the nearest cm and cut accurately. • Know how to draw out their figures for on top of the vane. Learn that balsa wood is soft and easy to saw. Know how to saw out a shape with a scroll saw. • Know what a dowel is for.		
Skills – by the end of the year pupils should be able to:								
Autumn One	• To begin balancing and building with large construction materials.	• To balance and build with large construction materials • To use a variety of different size and types of recyclables to make a creation	• Explore how structures can be improved (e.g. strength, stiffness, stabilisation). • How to join wood to make something that changes into something else.	• Evaluate existing products to see how they are made. Conduct simple customer research. Make a plan which shows the design and how it will be made. Evaluate how successful they	• Sieve - Select and use appropriate tools and techniques • Evaluate existing products to see how they are made: what they are made from,	• Apply techniques to strengthen structures • Explore their own ideas for improving structures • Learn about ground-breaking products and	• Demonstrate knowledge of using different tools and techniques • Apply knowledge of different materials and their uses • Use market research to	• Use a wide range of methods to strengthen, stiffen and reinforce complex structures • Use research into famous product creators to

			• How to make handles and why they are important. • Evaluate existing products to see how they are made.. Make a simple plan before making a product. State how successful they have been in making the final product.	have been in making the final product. • Recap, chop, dice and slice. Know how to peel different vegetables. • Peel and wash vegetables. Chop vegetables. Learn how to boil vegetables to make them soft. • Learn how to simmer. • Learn how to use a stock. • Know how to programme something to move. • Learn how to cut wood at an angle. Learn what hinges are for and where they are around school.	how successful they are, do they suit the purpose. Conduct simple customer research. Explain the design criteria. Make a plan and identify the order for making the product, the equipment and draw a labelled plan. Evaluate how successful they have met the design criteria. • Measure the size of holes.	who created them • Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, do they look good? Conduct customer research. Explain the design criteria. Make a plan and identify the order for making the product, the equipment and draw a labelled plan. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met	design their own innovative product • Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, who is the audience, do they look good? Conduct customer research. Explain the design criteria. Know what a design specification is. Make a plan. Use cross sectional drawings and exploded diagrams. Identify the order for making the product, the equipment and draw a labelled plan. Critique, evaluate, test	create their own innovative products. • Learn how to measure accurately, mark wood and shave small parts off the wood. • Know how to string pipes together firmly. • Evaluate products against their audience, purpose, function etc. Conduct consumer research. Know how to use exploded, cross sectional and other diagrams to show their design. Critique, evaluate, test ideas and the work of others. Evaluate how successful they

						the design criteria.	ideas and the work of others. Evaluate how successful they have met the design criteria.	have met the design criteria.
Autumn Two	• To begin joining small pieces of construction toys together.	• To balance and build with large construction materi-als • To use a variety of different size and types of recyclables to make a creation	• Evaluate existing products to see how they are made.. Make a simple plan before making a product. State how successful they have been in making the final product. • Practise and learn how to do a whip stitch. • Layer materials on top of each other and join with fabric glue. • Learn how to cut fabric and that it is different to wood. Know that fabric needs to be stabilised and strengthened.	• Learn the skill of setting and following instructions. • Learn that instructions need to be clear. • Give and receive instructions to others. • Understand the skill of inputting. • Evaluate existing products to see how they are made. Conduct simple customer research. Make a plan which shows the design and how it will be made. Evaluate how successful they have been in making the final product.	• Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose. Conduct simple customer research. Explain the design criteria. Make a plan and identify the order for making the product, the equipment and draw a labelled plan. Evaluate how successful they have met	• Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, do they look good? Conduct customer research. Explain the design criteria. Make a plan and identify the order for making the product, the equipment and draw a labelled plan. Critique, evaluate, test ideas and the work of	• Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, who is the audience, do they look good? Conduct customer research. Explain the design criteria. Know what a design specification is. Make a plan. Use cross sectional drawings and exploded diagrams. Identify the order for making the product, the equipment and	• Evaluate products against their audience, purpose, function etc. Conduct consumer research. Know how to use exploded, cross sectional and other diagrams to show their design. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria. • Learn why some things are improved with cogs. • Learn the idea of trial and improvement.

					• the design criteria. • Learn how scarves are knitted and constructed. Learn about the materials usually used for scarves.	others. Evaluate how successful they have met the design criteria. • Learn about which materials are warmest, water proof, best for protecting ears against sounds and cold.	draw a labelled plan. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria.	• Use accurate drawing and measurement skills.
Spring One	• To use different materials to make a den. • To put own toppings on the pancakes	• To select the appropriate materials for the boat • To test whether the boat floats • To evaluate why we thought our boat design was successful or unsuccessful	• Evaluate existing products to see how they are made.. Make a simple plan before making a product. State how successful they have been in making the final product. • Observe how CNY dragons move and how they look. Start to think about materials that could be used for different parts of the	• Explore methods to stabilise structures. • Learn how to cut wood at an angle. • Learn how to follow a parent/line to cut wood. • Know how to stabilise and strengthen a model. • Evaluate existing products to see how they are made. Conduct simple customer research. Make a	• Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose. Conduct simple customer research. Explain the design criteria. Make a plan and identify	• Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, do they look good? Conduct customer research. Explain the design criteria. Make a plan and identify the order for	• Build more complex 3D structures • Apply knowledge of strengthening and stabilising techniques. • Learn how to use different tools to build a puppet. • Learn the skill of boring, drilling, sawing, threading with wood. • Evaluate existing products to see	• Plan a meal based on the principles of a healthy diet • Learn how to bake. • Learn how to measure solids and liquids accurately. • Learn how to follow Mary Berry's recipes. • Learn how to line a dish. • Learn how to make pastry and tray bakes.

			dragon and why they might be good. • Use a butt joint in wood.	plan which shows the design and how it will be made. Evaluate how successful they have been in making the final product. • Learn how to fix and measure a hinge.	the order for making the product, the equipment and draw a labelled plan. Evaluate how successful they have met the design criteria. • Follow a step by step plan • Explain how to improve a product • Learn about ground-breaking products and who created them.	making the product, the equipment and draw a labelled plan. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria. • Know how to make a frame for the volcano and different materials as layers.	how they are made: what they are made from, how successful they are, do they suit the purpose, who is the audience, do they look good? Conduct customer research. Explain the design criteria. Know what a design specification is. Make a plan. Use cross sectional drawings and exploded diagrams. Identify the order for making the product, the equipment and draw a labelled plan. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria.	• Learn how to use a food mixer. • Evaluate products against their audience, purpose, function etc. Conduct consumer research. Know how to use exploded and other diagrams to show their design. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria. • Learn to measure to the nearest ml, l, g, kg. • Learn how to use ratio to increase or decrease ingredients.

Spring Two	• To begin joining pieces of construction toys together to make a nest. • To design and paint an egg person	• To recap what a design is and it's intended purpose • To design a ladybird based off the book the 'Ladybird Heard' • To recap what an evaluation is • To evaluate the ladybird	• Evaluate existing products to see how they are made.. Make a simple plan before making a product. State how successful they have been in making the final product. • Experiment with different levers and balances. • Learn the skill of thinking of solutions to meet the task in hand. • Use a butt joint in wood.	• Evaluate existing products to see how they are made. Conduct simple customer research. Make a plan which shows the design and how it will be made. Evaluate how successful they have been in making the final product. • Know how to join different types of material. Learn how to make a knot and how to use string. • Learn how to measure wood, and other objects using non-standard measures.	• Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose. Conduct simple customer research. Explain the design criteria. Make a plan and identify the order for making the product, the equipment and draw a labelled plan. Evaluate how successful they have met the design criteria. • Practice using different pulleys to solve a	• Learn the skill of making a dough and seeing it rise. • Learn how to knead dough. • Learn how to bake and set the oven temperature. Know how to finely chop and grate. • Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, do they look good? Conduct customer research. Explain the design criteria. Make a plan and identify the order for making the product, the	• Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, who is the audience, do they look good? Conduct customer research. Explain the design criteria. Know what a design specification is. Make a plan. Use cross sectional drawings and exploded diagrams. Identify the order for making the product, the equipment and draw a labelled plan. Critique, evaluate, test ideas and the work of others. Evaluate how	• Evaluate products against their audience, purpose, function etc. Conduct consumer research. Know how to use exploded, cross sectional and other diagrams to show their design. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria.

					problem, for example, how to lift stones to make a pyramid, to hang washing out of an Italian village house and bring it in again.	equipment and draw a labelled plan. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria.	successful they have met the design criteria.	
Summer One	• To safely use tools like scissors safely in the nursery.	• To recap what a design is and it's intended purpose • To design a fruit kebab • To evaluate to our fruit kebab based on flavour and taste	• Evaluate existing products to see how they are made.. Make a simple plan before making a product. State how successful they have been in making the final product • Food. Pupils should be able to combine fruit to make a fruit salad. • Know how to cut, dice and slice fruit. • Know how to make a simple	• Evaluate existing products to see how they are made. Conduct simple customer research. Make a plan which shows the design and how it will be made. Evaluate how successful they have been in making the final product. • Learn the whip stitch and the running stitch. • Learn that in fabric, we need to cut wider than	• Strengthen frames with diagonal struts and shell structures • Explain how to improve a product • Understand why an A frame is efficient for a roof. • Know how to make a bird box with a pitched roof. • Evaluate existing products to	• Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, do they look good? Conduct customer research. Explain the design criteria. Make a plan and identify the order for making the	• Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, who is the audience, do they look good? Conduct customer research. Explain the design criteria. Know what a design specification is. Make a plan. Use cross	• Evaluate products against their audience, purpose, function etc. Conduct consumer research. Know how to use exploded, cross sectional and other diagrams to show their design. Critique, evaluate, test ideas and the work of others. Evaluate how successful they

			sauce for a fruit salad.	the pattern and why.	see how they are made: what they are made from, how successful they are, do they suit the purpose. Conduct simple customer research. Explain the design criteria. Make a plan and identify the order for making the product, the equipment and draw a labelled plan. Evaluate how successful they have met the design criteria.	product, the equipment and draw a labelled plan. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria. • Learn how to make board games hide electrics and circuits.	sectional drawings and exploded diagrams. Identify the order for making the product, the equipment and draw a labelled plan. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria.	have met the design criteria.
Summer Two	• To use a range of materials to build with a purpose e.g. make a bridge/ crossing	• To design a paper mache planet • To evaluate to our planet based on whether it repre-sented their design	• Evaluate existing products to see how they are made.. Make a simple plan before making a	• Evaluate existing products to see how they are made. Conduct simple customer research. Make a plan which	• Know how to boil rice. Know correct hygiene for rice and how it should be kept.	• Explain which tools are most suitable for tasks • Make a weather vane out of wood so	• Make carrot and parsnip bhajis with coriander chutney. • Know how to weight to the nearest gramme.	• Evaluate products against their audience, purpose, function etc. Conduct

		• To talk about what they would change next time	product. State how successful they have been in making the final product. • Learn that to make things work we can press, pull, move a switch.	shows the design and how it will be made. Evaluate how successful they have been in making the final product. • Understand the idea of balance, lifting, levers and tilting.	• Know that stir frying makes vegetables soft. • Know how to handle and cook meat safely. • Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose. Conduct simple customer research. Explain the design criteria. Make a plan and identify the order for making the product, the equipment and draw a labelled plan.	that it can rotate with the wind. Use finishing techniques to make the product look good. • :Learn how windmills and weather vanes work	• Learn how to make a batter. • Know how to blend ingredients. • Use a wide range of techniques to combine • Evaluate existing products to see how they are made: what they are made from, how successful they are, do they suit the purpose, who is the audience, do they look good? Conduct customer research. Explain the design criteria. Know what a design specification is. Make a plan. Use cross sectional drawings and exploded diagrams. Identify the	consumer research. Know how to use exploded, cross sectional and other diagrams to show their design. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria.

					Evaluate how successful they have met the design criteria.		order for making the product, the equipment and draw a labelled plan. Critique, evaluate, test ideas and the work of others. Evaluate how successful they have met the design criteria.	
General skills incl questioning, problem solving, presenting and curiosity								
	• Know how to use scissors safely • Being curious about how to construct with different materials e.g. Lego, construction bricks, junk modelling • Understand how different things can be joined to together to make a product e.g. junk can become something else	• Know how to use a sharp objects safely e.g. kebab stick • Use evaluations to improve something. • Problem solving. • Being curious about how to construct with different materials e.g. Lego, construction bricks, junk modelling • Understanding how a design can lead to a product.	• Know how to use a knife safely. • Use non-standard measures. • Problem solving. • Presenting. • Being curious about products and how they work. • Understanding how across the world, the approach to the products is different, for example, a Chinese Fresh	• Know how to fit a photo n a frame. Know how to use a saw. Problem solve how to make the frame stand up. • Know how to hold and use a sharper knife safely. Know how to prepare food hygienically. • Solving problems when something does not fit. • Making adjustments.	• Know how to be safe around frying equipment and know what to do if there is a fire • Know how to look after and care for animals. • Team work and sharing equipment. • How to solve problems using design. • How to deal with errors and mistakes by adjusting design.	• How different foods can be grated. How cheese is made and there are different types. • Learn about the sustainability of wood. • Solve the problem of raising sand, water or something else from one level to another. • Solve problems with materials in making	• How to ground spices into smaller bits. • Performance and drama skills. •	• How to set the correct temperature for cooking • How to time their bakes. • Musical sound from percussion instruments. • The concept of profit and loss. Making things to make a profit. • Present their design o others ina structured speech.

			fruit salad may look different.	• Presenting their customer research and feedback.	• How to interpret the results of whether they met the design brief.	earmuffs and in making a weather vane.		
Experiences/community project/world perspective								
	• Experience making pancakes for pancake day • Experience painting eggs for Easter	• Experience making fruit kebabs • Experience testing their boats in water • Experience a local walk around the area • Visit from the Space Dome to look at the Solar system	• Experience different trays. Visit a café to see waiters using trays. • Visit a grocer or supermarket to look at fruit. Experience planting and growing strawberries. • Visit to China Town. Experience a video of a Dragon Dance in Asia. A visit from a CNY dragon performance. • Visit to a garden centre to look at wheelbarrows. • Experience different games that make a	• Explore photo frames of different types in a shop. • Visit to a green grocer of supermarket. Visit to an allotment. Visit to a vegetable market stall. • Visit to a lake to see different boats or the canal barges at Castlefield or at media City. • Stockport Hat museum. • Toy/baby shop to look at cot mobiles. • Field "Beebot" experience	• Gardener visit • Visit to look at board boxes in Alexandra Park. Visit to an aviary. • Visit a Chinese tasting menu or a Chinese restaurant. Visit a Chinese supermarket. Visit China Town. • Visit to a fabric factory. Visit to a material shop. • Visit to a construction site to see cranes working. • VR pyramid experience	• Visit an Italian restaurant. Visit from an Italian Chef. • Visit to see windmills. • Purchase ear muffs to explore • Visit to look at toys that make lights. • Visit to canal lock (back of Sportcity).	• Visit supermarket to look at spices. • RHS Garden Bridgewater visit • Visit an Asian heritage restaurant Recipes from the Asian subcontinent. • Puppeteer visit • Stockport hat museum. • Maritime museum lIverpool.	• Visit to a restaurant/café. • Musician with pan flutes • Visit from a pan pipe/flute player. • North American traditional recipes. • Museum of Transport Greater Manchester

			sound. Visit to a toy shop.					
Vocabulary/texts								
	• Snip, cut, junk, model, large, small, construct, build, safety, purpose, tower, bridge, crossing, nest • 'The Gruffalo'- Julia Donaldson	• Plastic, paper, float, sink, waterproof, wet, results predictions • Junk, modelling, clay, roll, score, create, final piece, scrunch, layer, small, large, purpose, construct • Paper mache, paint • Peirce, fruit, kebab, healthy • 'What the Ladybird Heard'- Julia Donaldson 'You Choose'- Nick Sharratt 'The Very Hungry Caterpillar'- Eric Carle	• Wood, join, tray, carry, measure, sides, surface 'wood' by Jen Green. • Cut, dice, slice, coat, sauce. 'My First Book About How Things Grow' by Felicity Brooks. • Stitch, whip stitch, sew, fabric, material, frame. ' • Posie Pixie and the Fireworks Party' by Sarah Hill. • 'Winnie and Wilbur at the Chinese New Year' Valerie Thomas. Product, dance, undulate. • 'The wheelbarrow garden' by	• Angle, cut, strengthen, hinge, prop. 'National Geography Kids Photography Guide' by National Geographic Kids • Seasoning, stock, paste, curry, turmeric, ginger, simmer, boil. 'Battle of the Vegetables' by Phillipe Bertrand. • Direct, left, right, straight on, back. Input, output, control. 'Robots' by Russell Punter. • Float, boat, raft, ship, sink. 'A boy and a bear in a boat' by Dave Shelton. • Brim, crown, dent, crease, ribbon, peak/	• Frame, hammer, nail, tenon saw, tack, box join, rebate join, "Wood Shop: Handy Skills and Creative Building Project for Kids" by Margaret Larson • Cloves, teaspoon, tablespoon, grammes, zest. 'Chinese Takeaway' by Kwoklyn Wan. • Load, fulcrum, effort, fixed, movable, compound, block and tackle, fulcrum, force.	• Dough, bake, Celsius, base, grated. 'A world of food' by Jane Bingham • Rotate, purpose, audience, pivot. • Muffle, ear protector and defender, band, insulate. 'Earmuffs for Everyone!' by Meghan McCarthy. • Volcanoes' by Emily Dodd. Crest, lava, magma, crater, vent, cone. • Globe, rod, rotating, fixed, directional, shaft, bracket. 'Windy Bloomers' by Catusha Warry	• Powder, ground, chutney, coriander, spice, 'Biography of spices' by Ellen Rodger. • Shaft, follower, CAM, slide, reciprocating motion., 'How to Be an Engineer' by Carol Vorderman • Gear, cog, teeth, mesh, spur, bevel, heliocentric, gear ratio, reduction, 'DKfindout! Solar System' by Sarah Cruddas	• Bake, blend, Celsius, tablespoon, dessert spoon, teas spoon, pinch. 'Science you can eat: Putting what we eat under the Microscope" by Stefan Gates. • Pan pipe, bamboo, glockenspiel.

			Annette Smith. Lift, tilt, lever.	‘The cat in the hat’ by Dr. Seuss • Tilt, balance, lever, unbalance, fulcrum.	‘Pulleys’ by Sally Walker. • ‘A History of Ancient Egypt: From the First Farmers to the Great Pyramid’ by John Romer. • Slip knot, cast on/off, knit, stitch, ‘Spin a Scarf of Sunshine’ by Dawn Casey			
People								
			• Thomas Chippendale. • Shen Zhou. • Zhuge Liang. • Delia Smith. • Ole Kirk Christiansen	• Charles Rennie Mackintosh • Ainsley Harriott. • Hamza Yassin. • Leif Eiriksson • Stephen Jones. • Robert Kinoshita	• Chris Packham. • Caroline Hwang. • Archimedes • Emperor Cheng • Tutankhamun • Charles Waterton	• Paul Ainsworth. • Carol Kirkman • Chester Greenwood • Katia Krafft • Leslie Scott • Archimedes	• Nadya Hussein. • Frank Oz • Robyn Fenty. • Copernicus. • Frank Oz • Leonardo da Vinci	• Mary Berry. • Michael Kors • JP Knight • Gunter Pauli • Leo Rojas • Uwe Wabra