Design & Technology
Progression Map

EYFS Framework
Personal, Social and Emotional Development
ELG: Self-Regulation
Set and work towards simple goals, being able to wait for what they want and control their impulses when appropriate.
Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions.
ELG: Fine Motor Skills
Use a range of small tools, including scissors, paint brushes and cutlery.
Begin to show accuracy when drawing.
Expressive Arts and Design
ELG: Creating with Materials
Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
Share their creations, explaining the processes they have used.

National Curriculum					
Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts.					
	Designing	**Making**	**Evaluating**	**Technical Knowledge**	**Food Technology**
KS1	Design - purposeful, functional, appealing products for themselves and other users based on design criteria. Design - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.	Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.	Explore and evaluate a range of existing products evaluate their ideas and products against design criteria.	Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	Use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from.

KS2	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 and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.	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 wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.	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.	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. Apply their understanding of computing to program, monitor and control their products.	Understand and apply the principles of a healthy and varied diet. 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.

Nursery and Reception
EYFS End Points (Related Early Learning Goals)
<u>Personal, Social and Emotional Development</u> **ELG: Self-Regulation** ● Can set and work towards simple goals and is able to wait for what they want and control their impulses when appropriate. ● Gives focused attention to what the teacher says, responding appropriately even when engaged in activity, and shows an ability to follow instructions involving several ideas or actions. **ELG: Fine Motor Skills** ● Uses a range of small tools, including scissors and paint brushes. ● Is beginning to show accuracy when drawing. **<u>Expressive Arts and Design</u>** **ELG: Creating with Materials** ● Safely uses and explores a variety of materials, tools and techniques, experimenting with form and function. ● Shares their creations, explaining the processes they have used.

Year 1				
KS1 DT Curriculum NC End Points: Designing: Can design purposeful, functional, appealing products for themselves and other users based on design criteria. Can generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Making: Can select from and use a range oftools and equipment to perform practicaltasks [for example, cutting, shaping, joining and finishing]. Can select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Evaluating: Can explore and evaluate a range of existing products evaluate their ideas and products against design criteria. Technical Knowledge Can build structures, exploring how they can be made stronger, stiffer and more stable. Can explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. Food Technology: Uses the basic principles of a healthy and varied diet to prepare dishes, understanding where food comes from.	**Term**	**Autumn**	**Spring**	**Summer**
	Half Term Coverage	**Autumn 2 Week 6**	**Spring 2 Week 3**	**Summer 2 Week 6**
	Topic	**Toys: Moving Pictures**	**Freestanding structures / Model (Dinosaurs)**	**Summer: Food (Selecting and Preparing RawIngredients: Fruit Snack)**
	Key Knowledge	• Understand that different mechanismsproduce different types of movement. • Know and use technical vocabularyrelevant to the project. • Understand the steps to make a movingpicture or toy • Understand that products are designed forusers based on criteria, and what simple criteria for a moving toy could be: the mechanism should work smoothly, it should make the right type of movement	• ***Dinosaurs have distinctive shapes and characteristics***, and they will design and create a dinosaur replica ensuring that it is freestanding. • To know how to join components together effectively. • Know that a range of tools can be used for different purposes: cutting, sticking, curling, bending, joining etc. • To understand how models/structures can be made strongerand stiffer.	• It is important to wash hands before preparing foodand to wash fruit before we eat it. • Simple utensils can be used to process food andmake it easier to eat. • Fruit is an essential part of a balanced diet and 5 portions of fruit and vegetables are recommendedper day. • Fruit and vegetables can be farmed or grown athome. • A Fruit usually contains a plant or tree's edible seed. • A Vegetable is a plant used for food. • Nutrients are the things in food that the body needsto remain healthy. • Pith is the soft white lining inside fruit such asoranges. • A fruit Salad is a cold dish of fresh and/or cookedfruit. • Sensory evaluation is when senses are used to evaluate qualities such as appearance, smell, taste,texture (mouth feel). A Kebab has cooked and/or fresh ingredients on askewer.
	Cross Curricular Links	• History Topic: Toys from the Past	• Maths: 2D and 3D shapes • Science: Materials	• Science: Healthy Diet • Literacy: Writing instructions
	Key Skills	• Generate ideas based on simple designcriteria and their own experiences • Develop, model and communicate their ideas through drawings and mock-ups withcard and paper. • Plan and suggest steps in the creationphase. Select and use tools, explaining their choices, to cut, shape and join paper andcard.	• Explore initial ideas using drawings and mock-ups. • Use tools for different purposes: cutting, sticking, curling, bending, joining etc. • Select and use a range of materials and components, such as paper, card, plastic and wood according to their characteristics. • Build structures by selecting appropriate materials and investigating ways to strengthen them. • Evaluate their ideas throughout the process and review their products against original criteria.	• Design appealing products for a particular userbased on simple design criteria. • Generate initial ideas and design criteria throughinvestigating a variety of fruit and vegetables. • Communicate these ideas through talk anddrawings. • Use simple utensils and equipment to e.g. peel, cut,slice, squeeze, grate and chop safely. • Select from a range of fruit and vegetables according to their characteristics e.g. colour, textureand taste to create a chosen product. • Taste and evaluate a range of fruit and vegetables todetermine the intended user's preferences. • Evaluate ideas and finished products against designcriteria, including intended user and purpose.

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	School Context			
	• Make a moving picture book as a class toshow EYFS classes examples of toys fromthe past.	• Relate to learning on toys past and present • Identify structures in the school environment that are free standing.	• Children use fruit from planters. • Consider why organic ingredients might be used and where these can besources in the local area or grown from seed.	

Year 2				
KS1 DT Curriculum NC End Points: Designing: Can design purposeful, functional, appealing products for themselves and other users basedon design criteria. Can generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Making: Can select from and use a range of tools and equipment to perform practical tasks [for example,cutting, shaping, joining and finishing]. Can select from and use a wide range of materials and components, including construction materials,	**Term**	**Autumn**	**Spring**	**Summer**
	Half Term Coverage	**Autumn 2 Week 7**	**Spring 2 Week 6**	**Summer 1 Week 4**
	Topic	**Autumn: Textiles (Winter Puppets)**	**Spring: Mechanisms (Vehicles with Wheels)**	**Summer: Food (Selecting and Preparing Raw Ingredients: Savoury)**
	Key Knowledge	• To know what Design criteria is and how it can be used to create a product. • To know which equipment is needed to sew material together. • To know and use key vocabulary, as relevant to the project: seam, thread, stitch. • To know how to evaluate their product against the design criteria and suggest improvements.	• A mechanism is a device used to create movement in a product and wheels and axles are examples of this. • To know the difference and distinguish between fixed and freely moving axles, using technical vocabulary relevant to the project. • To know the purpose of their product (that the finished model can be moved on wheels with ease) • To know what components are needed to construct a moving vehicle and use this to select materials according to which are most suitable.	• To know the purpose of different tools and which to select for use in preparing food (e.g. colander, sieve,spatula, peeler). • To know how to wash, peel, slice and grate vegetables, selecting and use appropriate kitchen equipment safely and purposefully. • To know how to grow vegetables from seed prepare for eating (including peeling, chopping, steaming and boiling) • To know that some ingredients are easier to acquire according to the season. • To now the food groups that different healthy foods belong and demonstrate by selecting appropriate combinations for a singular meal. • To know the source of their food.

textiles and ingredients, according to their characteristics. Evaluating: Can explore and evaluate a range of existing products evaluate their ideas and products against design criteria. Technical Knowledge Can build structures, exploring how they can be made stronger, stiffer and more stable. Can explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. Food Technology: Uses the basic principles of a healthy and varied diet to prepare dishes, understanding where food comes from.	**Cross Curricular Links**	Science: Features of Seasons	History: Castles/Settlements	• Science: Healthy Eating • School event; Tastes of the World
	Key Skills	• Design and create a puppet, sewing the material together effectively at the seams. • Thread and use a needle safely. • Evaluate own and each other's product(s) against the design criteria.	• Generate initial ideas and simple design criteria. • Develop and communicate ideas through drawings and mock-ups. • Use a range of tools and equipment to perform practical tasks, such as cutting and joining to allow movement and finishing. • Select from and using a range of materials and components, such as paper, card, plastic and wood, according to their characteristics. • Use wheels and axles as mechanisms in their product. • Evaluate the success of their product against the design criteria.	• Plan and prepare a dish of nutritional value. • Prepare a meal safely, using a range of equipment appropriately. • Make and present food in an aesthetically pleasing way and evaluate the success of their own and others' dishes, involving critique of how dishes could be improved. • To begin to use and be aware of a range of methods of food preparation, such as peeling, chopping, steaming and boiling.
	School Context			
			• Discuss moving vehicles in our local area, following observation.	• Children refer learning to what they are growing in the edible garden

Year 3				
KS2 DT Curriculum NC End Points: Designing • Can use research and develop design criteria to inform the design of	**Term**	**Autumn**	**Spring**	**Summer**
	Half Term Coverage	**Autumn 2 Week 5**	**Spring 2 Week 3**	**Summer 1 Week 5**
	Topic	**Autumn: Bread Based Product**	**Spring: Structures as dwellings (Roman Villas and Celt Round Houses)**	**Summer: Mechanical Systems (Pneumatics)**

innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. • Can generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Making: • Can select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], • Can accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Evaluating: • Can investigate and analyse a range of existing products. • Can evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • Understands how key events and individuals in design and technology have helped shape the world. Technical Knowledge: • Applies their understanding of how to strengthen, stiffen and reinforce more complex structures. • Understands and can use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. • Understands and can use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. • Applies their understanding of computing to program, monitor and control their products. Food technology: • Understand and can apply the principles of a healthy and varied diet. • Can 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.	**Key Knowledge**	• A range of utensils can be used for a range of techniques to prepare ingredients hygienically including the bridge and claw technique, grating, peeling, chopping, slicing, mixing, spreading, kneading and baking. • The food's appearance is how it looks to the eye. • The food's texture is how the product feels in the mouth. • Sensory evaluation means evaluating food products in terms of the taste, smell, texture and appearance. • A preference test means trying different things (foods) and deciding which is preferred. • A strawberry huller is tool to remove the stalk and leaves from a strawberry. • Processed food includes ingredients that have been changed in some way to enable them to be eaten or used in food preparation and cooking.	• The Roman Villa was a country home used by wealthy Romans. • A Roman villa was a luxurious estate for rich Romans in the countryside. Roman villas were much larger and more comfortable than a city apartment and had more rooms including servants quarters and exercise rooms. • The Celts lived in round huts with pointed roofs called roundhouses that were made from local material. The houses were often built near each other on tops of hills called hillforts. This was for security to help defend their territories. • The walls of a roundhouse were made of wattle and daub; woven wood plastered with straw and mud • The roof was supported by a series of poles attached to a central pole in the centre of the roundhouse. • To use understanding of how the shape of a structure can influence its strength and how their own structure can be strengthenedby internal support and exterior reinforcement. • Know how to use and manipulate materials in order to create a structure	• A **Pneumatic** system is one that works using gases (air). • A **Hydraulic** system is one that works using liquids (water). • Energy produced by pneumatic systems can be more flexible, less costly, more reliable and less dangerous than some actuators and electric motors. There are lots of familiar examples - examples-of-pneumatics.html • Something that is squashed, such as air in a tube, is compressed. • The 'input' is what goes into a system and 'output is what comes out • A point about which a lever turns is called a picot. • Pressure is the force used on an object or surface. • Inflating something is filling it with air or a gas to make it swell up and deflating is removing the pressurised air to allow an object, like a balloon, to shrink. • A Syringe is a tube with a nozzle and plunger for sucking and blowing air or liquids. • A System is a set of related parts or components used to create an outcome. • In a pneumatic system, the 'input movement' is where the user pushes or pulls a syringe or pump. The 'output movement' is where the object at the end of the tube moves.
	Cross Curricular Links	• Science: Healthy Diet/hygiene • Science: A Change in State	History – Romans and Celts.	
	Key Skills	• Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. • Plan the main stages of a recipe, listing ingredients, utensils and equipment. • Select and use appropriate utensils and equipment to prepare and combine ingredients. • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Evaluate the ongoing work and the final product with reference to the design criteria and the views of others. • Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately.	• Use research to inform the design criteria for a Roman villa / Celtic Round House. • To investigate the construction of existing structures and evaluate their own design against the design criteria • Use existing designs to inform own and communicate ideas through discussion, annotated sketches, cross-sectional diagrams and computer aided design (word.doc with shape manipulation) • Compare designs and understand the necessary features of a suitable structure	• Investigate, analyse and evaluate familiar objects that use air to make them work e.g. bicycle pump, balloon, inflatable swimming aids, foot pump for inflating an air bed. What does the air do? How has it been used in the design of these products? How can air be used to move heavy objects? • Construct a simple pneumatic system by joining a balloon to 5mm tubing and then to a washing-up liquid bottle. What happens to the air when you squeeze the bottle? What happens when you let go? Can you lift a soft toy or a note pad using a balloon? • Generate realistic and appropriate ideas and their own design criteria through discussion, focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas. • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons. • Select from and use finishing techniques suitable for the product they are creating. • Investigate and analyse books, videos and products with pneumatic mechanisms. • Evaluate their own products and ideas against criteria and user needs, as they design and make. • Understand and use pneumatic mechanisms. • Know and use technical vocabulary relevant to the project.
	School Context			
	• Use herbs from the edible garden to flavour dishes.			

Year 4				
KS2 DT Curriculum NC End Points: Designing • Can 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. • Can generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Making: • Can select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], • Can accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Evaluating: • Can investigate and analyse a range of existing products. • Can 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. Technical Knowledge: Applies their	**Term**	**Autumn**	**Spring**	**Summer**
	Half Term Coverage	**Autumn 1 Week 6**	**Spring 2 Week 6**	**Summer 2 Week 6**
	Topic	**Textiles (Fastening Wallet or Purse)**	**Extreme Earth - Earthquake Shelters**	**Sustainable Cities – Design and Make a Sustainable City**
	Key Knowledge	• To know how to specify a design to make it more appealing to a specific target group. • To know different types of stitches for the purpose of functionality and aesthetics. • Know and use technical vocabulary relevant to the project. • Know how to evaluate their product against the product criteria they have generated individually, as a means to improve their work.	• Think of ideas and plan what to do next, based on what they know about materials and components. • Plan using specific materials and explain their choices. • Select the appropriate tools, techniques and materials explaining my choices • Use pictures and words to describe what they want to do (materials, techniques,features-mechanics and tools) • Communicate their ideas using labelled sketches giving reasons for choices • Start to produce step by step plans • Use appropriate materials and an appropriate join • Measure and mark out materials with care and increasing accuracy • Use scoring and folding to shape materials accurately • Make cuts accurately (scissors and saws) • Make holes accurately (drill, punch) • Join materials to make products using both permanent and temporary fastenings. • Methods of working are increasingly precise aiming for a high quality finish • Select the appropriate materials(s) for the shelter. • Research and evaluate existing products to inform planning • Understand that products are designed for a purpose (e.g. a problem, an audience, an event) • Talk about own and others' work (features,design, opinion) • Explain why they chose certain materials, techniques and tools • Say how they would improve their product • Identify what is working well and what can be improved (this is during the make as well as at the end)	• Use their knowledge of design and designers to further research and help influence their own design • Create models or prototypes to show aspects of design and sustainability • Produce step by step plans • Use computer aided design • Come up with solutions to problems as they happen. • Take part in technical discussions about ideas. • Select from a variety of materials best suited to a design, consider materials that have been recycled or upcycled where possible. • Measure using mm and then use scoring,and folding to shape materials accurately. • Make cuts accurately and reject pieces that are not accurate and improve their technique. • Joins are strong and stable, giving extra strength to products. • Some joins are flexible to allow for dismantling or folding. • Methods of working are precise so that products have a high quality finish. • Use computer programming when creating a product. • Research and evaluate existing products giving reasons for the decisions of the designers (materials, design,sustainability, tools, techniques) • Use the ideas from current designers to help with plans • Reflect on designs and develop them bearing in mind the way they will be used (during the process)
	Cross Curricular Links		• Computing : Document and annotate process • Maths : through market research recording feedback and establishing results. Through pricing and budgeting products. • Geography: Climates	• Science: • Geography: Climate, Natural Disaster • Art and design – use of colour, pattern, line, shape.

understanding ofhow to strengthen, stiffen andreinforce more complex structures. • Understands and can use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. • Understands and can use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. • Applies their understanding of computing to program, monitor and control their products. Food technology: • Understand and can apply the principles of a healthy and varied diet. • Can 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.	**Key Skills**	• Design and make a functional purse or wallet with a fastening, communicating initial ideas through annotated sketches • Use research into the features of an appealing functional purse/wallet to inform design criteria • Select and use a range of tools to perform practical tasks; stitching and sewing (joining), cutting and systematically work through phases of a design. • Investigate the effect of different stitches in joining seams and how they contribute to the overall effectiveness and durability of the product. • Evaluate the outcome with reference to the design criteria	• Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. • Explore a range of initial ideas and make design decisions to develop a final product linked to user and purpose. • Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. • consider the availability and costings of resources when planning out designs; • Know the application of mechanisms to create movement. • Combine a number of components well in a product. • Use simple resources to create motion. • Know that products have a good finish so that a user will find it both useful and attractive. • Know some designers from history • Talk about some of the tools, techniques and design used by the designer	• Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas. • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. • Select from and use finishing techniques suitable for the product they are creating. • Evaluate their own products and ideas against criteria and user needs, as they design and make. • Use skills and techniques to measure, mark out, cut, join and finish.
		School Context		
				Children learn to be responsible inhabitants of our global world. Understanding the importance of recycling and using less energy. SDG RR

Year 5			
KS2 DT Curriculum NC End Points: Designing • Can 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. • Can generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Making: • Can select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], • Can accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Evaluating: • Can investigate and analyse a range of existing products. • Can 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. Technical Knowledge: • Applies their understanding of how to strengthen, stiffen and reinforce more complex structures. • Understands and can use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. • Understands and can use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. • Applies their understanding of computing to program, monitor and control their products. Food technology: • Understand and can apply the principles of a healthy and varied diet. • Can 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.	**Term**	**Autumn**	**Spring**	**Summer**
	Half Term Coverage	**-**	**Spring 1 Week 1**	**Summer 2 Week 1 & 2**
	Topic	-	**Spring: Food technology (Baking)**	**Summer: Soft Sea Creature Toy (Fund raising for endangered sea life)**
	Key Knowledge		• To know about the benefits of whole grain flour, opposed to a plain flour and the reasons why some types of bread, such as wholemeal, are healthier than others and can be a source of carbohydrate in a healthy balanced diet. • To know that a wheat grain is a seed and how it is harvested and ground at a mill to make flour. https://m.youtube.com/watch?v=y8vLjPctrcU • To know about the influence of specific manufacturers and consider the importance and usefulness of market research in this context. • To know the importance of clear and accurate food labelling and knowledge of ingredients, with particular reference to food allergies. • To know the different tools and ingredients typically involved in breadmaking and the steps involved in the breadmaking process • Kneading is pulling and squeezing dough to make it smooth. • Bran is the hard protective shell of a grain of wheat. • Dough is a mixture of flour, yeast and water before it is cooked. • Endosperm is the store of food inside a seed. • Germ – part of the seed where the root and shoots grow from. • Yeast is a tiny plant which makes bubbles of carbon dioxide when mixed with flour and warm water. • Unleavened bread – flat bread where yeast has not been added.	• To know that there are many different types of sea life. • To know there are many endangered species in the oceans of the world. • Different materials can be used: felt, cotton, elastic, sequins, buttons • How to work safely using tools and equipment. • How to strengthen a material or structure design using materials • Understand how to assess the quantity of materials needed for a soft toy. • To know different stitches; running stitch, back stitch, blanket stitch • To know different tacking techniques; buttons, material, sequins • The design of particular toys makes them particularly appealing considering their appearance, design, size. • Design prototypes, pattern pieces and computer-aided design can support the design process overall.
	Cross Curricular Links		• calculate the cost of the ingredients used in our bread rolls (cross-curricular: maths) • create a recipe for making bread by taking notes while watching a recipe video, using features of instructional writing (cross-curricular: literacy)	• recognising/describing/making 3D shapes (maths) • asking relevant questions, formulate/express opinions, give well-structured descriptions/explanations (literacy skills) • comparing materials (science)
	Key Skills		• Evaluate a range of bread, through taste, to inform own design criteria which children subsequently review their own product against, considering appearance, flavour, texture and ingredients. • Record evaluative data in a table to support comparison • Carrying out and articulating the findings of research carried out in groups. • Reviewing, considering and suggesting ways in which a recipe could be adapted to be made healthier (eg recipes involving white flour/salt/sugar) • Preparing and baking a savoury dish, using specific techniques for purpose.	• Evaluate an existing soft toy to inform plans and design. • Sketch and annotate a plan of their planned toy. • To know about different toy designs in order to create a toy for a specific user and purpose • Select and implement appropriate sewing tools and techniques to add embellishments to purse for e.g. sequins and buttons • Write a step by step set of instructions to follow for making their toy, including the tools and materials. • Evaluate different materials and their suitability for use. • Accurately join different materials using appropriate thread and stiches. • Work in a team to plan and build a bridge structure • Create a soft toy following a plan accurately. • Evaluate their completed project considering how successful their toy is according to the original brief.
	School Context			
				• Visit KS1 classes and find out which soft toys are the most popular and why?

Year 6				
KS2 Curriculum End Points: Designing • Can 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. • Can generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Making: • Can select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], • Can accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Evaluating: • Can investigate and analyse a range of existing products. • Can evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. • Understands how key events and individuals in design and technology have helped shape the world. Technical Knowledge: • Applies their understanding of how to strengthen, stiffen and reinforce more complex structures. • Understands and can use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. • Understands and can use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. • Applies their understanding of computing to program, monitor and control their products. Food technology: • Understand and can apply the principles of a healthy and varied diet. • Can 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.	**Term**	**Autumn**	**Spring**	**Summer**
	Half Term Coverage	**Autumn 2 Weeks 6 & 7)**	**Summer 2 Week 2**	**-**
	Topic	**Motion Figures (Freestanding Structures with an Internal Skeleton Frame)**	**Robotics and Animatronics**	
	Key Knowledge	• To know how to use a wider range of tools and equipment to perform practical tasks (eg hammer, pliers). • Knows the value of and is able to make a prototype for design (e.g. a smaller version in a different medium) to inform subsequent improvement and to support the communication of ideas. • Knows how to hold and strike a hammer in smooth and rhythmical motion • Knows how to hold and operate pliers correctly by using the correct grip to shape and form a material • Knows how to form different shapes using wire to create the human body whilst in motion • To know how a more complex structure can be supported by an internal frame	• Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] • • Know how mechanical systems such as cams or pulleys or gears create movement • Know that a 3D textiles product can be made from a combination of fabric shapes • Know how to reinforce and strengthen a 3D framework • Know how to measure and cut different materials, including dowel, accurately and safely. • Know the importance of a process of review of each construction phase to ensure that each part works and is secure to achieve a fully effective end product.	
	Cross Curricular Links	• Computing - taking pictures of themselves • PE - athletic poses and postures • Art: Refugee Art - experiment with posture and pose to convey emotion	• Computing – use search technologies for research purposes and be discerning when evaluating digital content. • Art and design – use and apply drawing skills. Use techniques with colour, pattern, texture, line and shape. • Science – apply knowledge and understanding of circuits, switches, conductors and insulators in the design of the final product. • Mathematics – understand ratios. Apply understanding and skill to carry out accurate measuring using standard units i.e. cm/mm.	
	Key Skills	• Select and use a wider range of tools and equipment to perform practical tasks (including a hammer to join wire to wood, pliers to manipulate a structure into the shape of a figure) and using equipment safely. • Draw and photograph the body in motion and use images to inform designs. • Evaluate their own and others' products, against design criteria and identifying and communicating how refinement of building processes, as well as the outcome itself, could be improved.	• Accurately measure the lengths of square-section wood, sawing and smoothing ends with sandpaper. • Build and reinforce a rectangular frame with triangles. • Reinforce axles with bearings securing axle holders and checking that wheels move freely. • Building a wooden pulley system with a secure fit. • Create a chassis in order to hold a motor which will enable the vehicle to be powered. • Assess to identify and address potential weaknesses and apply knowledge of strengthening, reinforcing and stiffening. • Attach a battery with wires to a motor. • Critically evaluate the quality of the design, manufacture, functionality, innovation and fitness for purpose, throughout the process and when the final product is in use, referring back to the design criteria. • Follow step-by step plans with referral to lists of tools, equipment and materials needed.	
	School Context			
			Children test products in the main hall as part of the evaluation process.	