Design and Technology		
INTENT		
End of EYFS	End of Key Stage 1	End of Key Stage 2

Design • Explore, use and refine a variety of effects to express their ideas. **Make** • Create collaboratively, sharing ideas, resources and skills. **Evaluate** • Return to and build on their previous learning, refining ideas and developing their ability to represent them. **Technical Knowledge** • Build structures and suggest improvements. • Explore different methods of creating and making. Cooking and Nutrition • Understand the foods we need to keep us healthy. • Explore foods using senses • Begin to follow a recipe, measuring ingredients, cutting, grating and mixing as needed.	**Design** • Design purposeful, functional, appealing products for themselves and others based on design criteria. • Generate, develop, model and communicate their ideas through talking, drawing, templates and ICT. **Make** • Select from and use a range of tools and equipment to perform practical tasks. • Select from and use a wide range of materials and component. **Evaluate** • Explore and evaluate a range of existing products. • Evaluate their ideas and products against design criteria. **Technical knowledge** • Build structures exploring how they can be made stronger and more stable. • Explore and use mechanisms in their products. **Cooking and Nutrition** • Use the basic principles of a healthy and varied diet to prepare dishes. • Understand where food comes from.	**Design** • Use research and develop design criteria to inform the design of innovative products that are fit for purpose for particular groups. • Generate, develop and communicate ideas through discussion, sketches, diagrams. **Make** • Select from and use a wider range of tools and equipment to perform practical tasks accurately. • Select from and use a wider range of materials and components according to their functional properties. **Evaluate** • Investigate and analyse a range of existing products. • Evaluate their ideas and products against their own criteria and consider others' views. • Understand how key events and individuals in DT have shaped the world. **Technical Knowledge** • Apply understanding of how to strengthen and reinforce structures. • Understand and use mechanical systems in their products. • Understand electrical systems in their products. • Apply understanding of computing to programme and control their products. **Cooking and Nutrition** • Understand and apply the principles of a healthy and varied diet • Prepare and cook and variety of predominantly savoury dishes. • Understand seasonality and how ingredients are grown, reared, caught and processed.
IMPLEMENTATION		
End of EYFS	End of Key Stage 1	End of Key Stage 2

Design • Discuss what they want to make and what features are needed. • Discuss problems and how they might be solved as they arise. • Discuss what a good design needs. • Choose from available materials	Design • Learning the importance of a clear design criteria. • Include individual preferences and requirements in a design. • Generate and communicate ideas using sketching and modelling. • Select a suitable linkage system to produce the desired motion. • Design a wheel. • Create a class design criteria for a moving product. • Design a moving product for a specific audience in accordance with a design criteria. • Use a template to create a design.	Design • Create a design featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs. • Experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement. • Understand how linkages change the direction of a force. • Understand and draw cross-sectional diagrams to show the inner-workings of my design. • Design a steady hand game - identifying and naming the components required. • Draw a design from three different perspectives. • Generate ideas through sketching and discussion. • Model ideas through prototypes. • Write a recipe, explaining the key steps, method and ingredients. • Include facts and drawings from research undertaken. • Write a design brief from information submitted by a client, developing design criteria to fulfil the client's request. • Consider and suggest additional functions for a product. • Develop a product idea through annotated sketches. • Place and manoeuvre 3D objects, using CAD. • Change the properties of, or combine one or more 3D objects, using CAD.

Make • Use a range of materials for construction. • Know different techniques for joining materials, such as how to use adhesive tape and different sorts of glue. • Use a range of materials and tools with care and precision. • Develop fine motor/scissor skills with a variety of materials. • Join materials in a variety of ways (permanent and for simple movement). • Describe their product and how they intend to construct it. • Begin to assemble food according to simple instructions. • Use threading skills to join by sewing through holes.	Make • Make a structure according to design criteria. • Create joints and structures from paper/card and tape. • Make stable structures from card, tape and glue. • Learn how to turn 2D nets into 3D structures. • Follow instructions to cut and assemble a supporting structure. • Make functioning turbines and axles which are assembled into a main supporting structure. • Make linkages using card for levers and split pins for pivots. • Experiment with linkages • Cut and assemble components neatly. • Select materials according to their characteristics. • Follow a design brief. • Slice food safely using the bridge or claw grip. • Follow a recipe that forms part of a design brief. • Select and cut fabrics for sewing. • Decorate a product using fabric glue or running stitch. • Thread a needle. • Sew running stitch, with evenly spaced, neat, even stitches to join fabric. • Neatly pin and cut fabric using a template. • Adjusting the widths, lengths and thicknesses of card used.	Make • Build a range of structures drawing upon new and prior knowledge of structures. • Measure, mark and cut wood to create a range of structures. • Use a range of materials to reinforce and add decoration to structures. • Independently measure and mark materials accurately. • Select appropriate tools and equipment for particular tasks. • Use the correct techniques to saw safely. • Identify where a structure needs reinforcement and use card corners for support. • Explain why selecting appropriating materials is an important part of the design process. • Measure, mark and cut components accurately using a ruler and scissors. • Assemble components accurately to make a stable frame. • Select appropriate materials based on the joins and the speed at which the glue needs to dry/ set. • Accurately cut, fold and assemble a net. • Make and test a circuit. • Incorporate a circuit into a base. • Follow a recipe, including using the correct quantities of each ingredient. • Adapt a recipe based on research. • Work safely and hygienically with independence. • Make and test a paper template with accuracy and in keeping with the design criteria.

		• Measure, mark and cut fabric using a paper template. • Measure, mark and cut components accurately using a ruler and scissors. • Assemble components accurately to make a stable frame. • Select appropriate materials based on the joins and the speed at which the glue needs to dry/ set. • Accurately cut, fold and assemble a net. • Make and test a circuit. • Incorporate a circuit into a base. • Follow a recipe, including using the correct quantities of each ingredient. • Adapt a recipe based on research. • Work safely and hygienically with independence. • Make and test a paper template with accuracy and in keeping with the design criteria. • Measure, mark and cut fabric using a paper template. • Select a stitch style to join fabric, working neatly by sewing small, straight stitches. • Incorporate a fastening to a design. • Consider materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). • Explain material choices and why they were chosen as part of a product concept. • Programme an N, E, S, W cardinal compass.

Evaluate • Give a verbal evaluation of their own and others' product with adult support. • Check to see if their product matches their plan. • Consider what they would do differently if they were to do it again. • Make simple suggestions to fix or improve their product. • Describe their favourite and least favourite part of their product.	Evaluate • Test the strength of own structure. • Identify the weakest part of a structure. • Evaluate different designs; testing and adapting a design. • Evaluate own designs against design criteria. • Use peer feedback to modify a final design. • Describe the taste, texture and smell of fruit and vegetables. • Taste testing food combinations and final products. • Describe the information that should be included • Discuss as a class, the success of their stitching against the success criteria. • Identify aspects of their peers' work that they particularly like and why. • Evaluate the quality of the stitching on others' work.	Evaluate • Improve a design plan based on peer evaluation. • Test and adapt a design against design criteria to improve it as it is developed. • Test own and others finished products, identifying what went well and making suggestions for improvement. • Apply points of improvement to products, describing changes they would make/do if they were to do the project again. • Evaluate a recipe, considering: taste, smell, texture and origin of the food group. • Taste test and score final products, suggesting and writing up points of improvements when scoring others' dishes, and when evaluating their own throughout the planning, preparation and cooking process. • Articulate the advantages and disadvantages of different fastening types. • Develop an awareness of sustainable design. • Identify key industries that utilise 3D CAD modelling and explain why. • Describe how the product concept fits the client's request and how it will benefit the customers. • Explain the key functions and features of my navigation tool to the client as part of a product concept pitch. • Demonstrate a functional program as part of a product concept pitch. • Evaluate health and safety in production to minimise cross contamination.

Technical Knowledge • Define colours, shapes, texture, taste and smells in their own words. • Know there are a range to different materials that can be used to make a product and that they are all slightly different. • Use simple technical vocabulary e.g. floating/ sinking, etc.	Technical Knowledge • Know that design criteria are a list of points to ensure the product meets the clients' needs and wants. • Know how turbines work and some of their uses. • Design a structure with sails, turbine and axle. • Know that mechanisms are a collection of moving parts that work together as a machine to produce movement. • Know that there is always an input and output in a mechanism. • Know that an input is the energy that is used to start something working and that an output is the movement that happens as a result of the input. • Understand that people should eat a range of different foods from each food group, and roughly how much of each food group. • Know that nutrients are substances in food that all living things need to make energy, grow and develop. • Know that 'ingredients' means the items in a mixture or recipe. • Know that a lever is something that turns on a pivot. • Know that a linkage mechanism is made up of a series of levers. • Know that some real-life objects contain mechanisms. • Understand that 'diet' means the food and drink that a person or animal usually eats. • Understand what makes a balanced diet. • Know where to find the nutritional information on packaging especially sugars.	Technical Knowledge • Know that structures can be strengthened by manipulating materials and shapes. • Understand what a 'footprint plan' is. • Understand that in the real world, design, can impact users in positive and negative ways. • Know that a prototype is a cheap model to test a design idea. • Understand that the mechanism in an automata uses a system of cams, axles and followers. • Understand that different shaped cams produce different outputs. • Know that a cross-sectional diagram shows the inner workings of a product. • Understand how to use a bench hook and saw safely. • Know that a set square can be used to help mark 90° angles. • Know that batteries contain acid, which can be dangerous if they leak. • Know the names of the components in a basic series circuit, including a buzzer • Understand the diagram perspectives 'top view', 'side view' and 'back' • Know that 'flavour' is how a food or drink tastes. • Know that many countries have 'national dishes' which are recipes associated with that country. • Know that 'processed food' means food that has been put through multiple changes in a factory.

	• Identify the five main food groups; carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar.	• Understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. • Understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork). • Know that a fastening is something which holds two pieces of material together for example a zipper, toggle, button, press stud and velcro. • Know that different fastening types are useful for different purposes. • Know that creating a mock up (prototype) of a design is useful for checking ideas and proportions. • Know that accelerometers can detect movement. • Understand that sensors can be useful in products as they mean the product can function without human input. • Know that designers write design briefs and develop design criteria to enable them to fulfil a client's request. • Know that 'multifunctional' means an object or product has more than one function.
IMPACT		
Pupil Voice		
Subject Monitoring		