



Design & Technology Curriculum Map

EYFS

When they leave the Early Years, we expect children to be able to:

- Realise tools can be used for a purpose
- Handle tools, objects, construction materials and malleable materials safely and with increasing control
- Use a range of simple tools and techniques competently and appropriately
- Use simple tools to effect changes to materials

- Hold a pencil between thumb and two fingers, no longer using whole hand
- Hold a pencil near the point between two fingers with good control
- Hold a pencil comfortably using a tripod grip
- Show accuracy when drawing and copying

- Use various construction materials
- Join construction pieces together to build and balance
- Construct stacking blocks vertically and horizontally making enclosures and spaces
- Construct with a purpose in mind using a variety of resources
- Select appropriate resources and techniques needed to shape assemble and join materials
- Make use of props and materials when role playing characters in narratives and stories

- Pay attention to their teachers and follow multi-step instructions
- Have a positive sense of self and show perseverance in the face of challenge
- Share creations explaining the process they have used

	Autumn Food Technology	Spring Mechanisms	Summer Structures
Year 1	<u>Cooking and Nutrition: Fruits and vegetables</u> - Describe fruits and vegetables and explain why they are a fruit or a vegetable. - Name a range of places that fruits and vegetables grow. - Describe basic characteristics of fruit and vegetables. - Prepare fruits and vegetables to make a smoothie. Kapow link D&T Fruit and Vegetables KS1 Y1 - Kapow Primary Visit to the cookery room: Autumn 1, Week 2 and 3	<u>Wheels and Axels: Moving Vehicles</u> - Explain that wheels move because they are attached to an axle. - Recognise that wheels and axles are used in everyday life, not just in cars. - Identify and explain vehicle design flaws using the correct vocabulary. - Design a vehicle that includes functioning wheels, axles, and axle holders. - Make a moving vehicle with working wheels and axles. - Explain what must be changed if there are any operational issues. Kapow link Mechanisms: Wheels and axles - Kapow Primary	<u>Windmills</u> - Identify some features that would appeal to the client (a mouse) and create a suitable design. - Explain how their design appeals to the mouse. - Make stable structures, which will eventually support the turbine, out of card, tape, and glue. - Make functioning turbines and axles that are assembled into the main supporting structure. - Say what is good about their windmill and what they could do better. Kapow link KS1 Y1 Design & Technology Constructing Windmills- Kapow Primary

	Autumn Food Technology	Spring Mechanisms	Summer Structures
Year 2	<u>Cooking and Nutrition: A Balanced Diet</u> - Name the main food groups and identify foods that belong to each group. - Describe the taste, texture and smell of a given food. - Think of four different wrap ideas, considering flavour combinations. - Construct a wrap that meets the design brief and their plan. Kapow link Cooking and nutrition: A balanced diet – Kapow Primary Visit to the cookery room: Autumn 1, Week 4, and 5	<u>Mechanical Systems: Fairground Wheel</u> - Design and label a wheel. - Consider the designs of others and make comments about their practicality or appeal. - Consider the materials, shape, construction, and mechanisms of their wheel. - Label their designs. - Build a stable structure with a rotating wheel. - Test and adapt their designs as necessary. - Follow a design plan to make a completed model of the wheel. Kapow link Mechanisms: Fairground wheel – Kapow Primary	<u>Baby Bear's Chair</u> - Identify man-made and natural structures. - Identify stable and unstable structural shapes. - Contribute to discussions. - Identify features that make a chair stable. - Work independently to make a stable structure, following a demonstration. - Explain how their ideas would be suitable for Baby Bear. - Produce a model that supports a teddy, using the appropriate materials and construction techniques. - Explain how they made their model strong, stiff, and stable. Kapow link Structures: Baby Bear's chair - Kapow Primary

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Year 3	<u>Cooking and Nutrition: Eating Seasonally</u> - Explain that fruits and vegetables grow in different countries based on their climates. - Understand that 'seasonal' fruits and vegetables are those that grow in each season and taste best then. - Know that eating seasonal fruit and vegetables has a positive effect on the environment. - Design their own tart recipe using seasonal ingredients. - Understand the basic rules of food hygiene and safety. - Follow the instructions within a recipe. Kapow link Cooking and nutrition: Eating seasonally - Kapow Primary Visit to the cookery room: Autumn 1, week 6 and 7	<u>Mechanical Systems: Pneumatic Toys</u> - Draw accurate diagrams with correct labels, arrows, and explanations. - Correctly identify definitions for key terms. - Identify five appropriate design criteria. - Communicate two ideas using thumbnail sketches. - Communicate and develop one idea using an exploded diagram. - Select appropriate equipment and materials to build a working pneumatic system. - Assemble their pneumatic system within the housing to create the desired motion. - Create a finished pneumatic toy that fulfils the design brief. Kapow link Mechanical systems: Pneumatic toys - Kapow Primary	<u>Castles</u> - Draw and label a simple castle that includes the most common features. - Recognise that a castle is made up of multiple 3D shapes. - Design a castle with key features which satisfy a given purpose. - Score or cut along lines on the net of a 2D shape. - Use glue to securely assemble geometric shapes. - Utilise skills to build a complex structure from simple geometric shapes. - Evaluate their work by answering simple questions. Kapow link D&T Structures: Constructing a castle KS2 - Kapow Primary

	Autumn Food Technology	Spring Mechanisms	Summer Structures
Year 4	<u>Cooking and Nutrition Adapting a recipe</u> - Follow a recipe, with some support. - Describe some of the features of a biscuit based on taste, smell, texture, and appearance. - Adapt a recipe by adding extra ingredients to it. - Plan a biscuit recipe within a budget. Kapow link Cooking and nutrition: Adapting a recipe - Kapow Primary Visit to the cookery room: Autum 2 week 1 and 2	<u>Electrical Systems: Torches</u> - Identify electrical products and explain why they are useful. - Help to make a working switch. - Identify the features of a torch and how it works. - Describe what makes a torch successful. - Create suitable designs that fit the success criteria and their own design criteria. - Create a functioning torch with a switch according to their design criteria. Kapow link Electrical systems: Torches - Kapow Primary	<u>Pavilions</u> - Produce a range of free-standing frame structures of different shapes and sizes. - Design a pavilion that is strong, stable, and aesthetically pleasing. - Select appropriate materials and construction techniques to create a stable, free-standing frame structure. - Select appropriate materials and techniques to add cladding to their pavilion. Kapow link Structure: Pavilions - Kapow Primary

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Year 5	<u>Cooking and Nutrition What Could Be Healthier?</u> - Understand how beef gets from the farm to our plates. - Present a subject as a poster with clear information in an easy-to-read format. - Contribute ideas as to what a 'healthy meal' means. - Notice the nutritional differences between different products and recipes. - Recognise nutritional differences between two similar recipes and give some justification as to why this is. - Work as a team to amend a Bolognese recipe with healthy adaptations. - Follow a recipe to produce a healthy Bolognese sauce. - Design packaging that promotes the ingredients of the Bolognese. Kapow link Cooking and nutrition: What could be healthier? – Kapow Primary Visit to the cookery room: Autumn 2, Week 3 and 4	<u>Electrical systems: Doodlers</u> - Identify simple circuit components (battery, bulb, and switch) with a basic explanation of their function. - Explain that a series circuit is assembled in a loop to allow the electricity to flow along one path. - Describe a motor as a circuit component that changes electrical energy into movement. - Provide examples of motorised products that use movement to rotate or spin different parts. - Remove and replace different parts of a Doodler, as part of a team. - Suggest ways to switch the configuration to amend the form or function of the Doodler. - Create a functional Doodler that creates scribbles on paper with or without a switch. - Identify and list each of the required materials, tools and circuit components required to build a Doodler. - Explain simply, the steps to assemble a Doodler as part of a set of instructions (or storyboard). Kapow link Electrical systems: Doodlers - Kapow Primary	<u>Bridges</u> - Identify stronger and weaker shapes. - Recognise that supporting shapes can help increase the strength of a bridge, allowing it to hold more weight. - Identify beam, arch and truss bridges and describe their differences. - Use triangles to create simple truss bridges that support a load (weight). - Cut beams to the correct size, using a cutting mat. - Smooth down any rough-cut edges with sandpaper. - Follow each stage of the truss bridge creation as instructed by their teacher. - Complete a bridge, with varying ranges of accuracy and finish, supported by the teacher. - Identify some areas for improvement, reinforcing their bridges as necessary. Kapow link D&T KS2 Structure: Bridges - Kapow Primary

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Year 6	<u>Cooking and Nutrition Come Dine with Me</u> - Find a suitable recipe for their course. - Record the relevant ingredients and equipment needed. - Follow a recipe, including using the correct quantities of each ingredient. - Write a recipe, explaining the process taken. - Explain where certain key foods come from before they appear on the supermarket shelf. Kapow link Cooking and nutrition: Come dine with me - Kapow Primary Visit to the cookery room: Autumn 2 Week 5 and 6	<u>Electrical Systems: Steady Hand Game</u> - Explain simply what is meant by 'form' (the shape of a product) and 'function' (how a product works). - State what they like or dislike about an existing children's toy and why. - Learn about skills developed through play and apply this knowledge in a survey of one or more children's toys. - Identify the components of a steady hand game. - Design a steady hand game of their own according to their design criteria, using four different perspective drawings. - Create a secure base for their game, with neat edges, that relates to their design. - Make and test a functioning circuit and assemble it within a case. Kapow link Electrical systems: Steady hand game - Kapow Primary	<u>Playgrounds</u> - Create five apparatus designs, applying the design criteria to their work. - Make suitable changes to their work after peer evaluation. - Make roughly three different structures from their plans using the materials available. - Complete their structures, improving the quality of their rough versions and applying some cladding to a few areas. - Secure their apparatus to a base. - Make a range of landscape features using a variety of materials which will enhance their apparatus. Kapow link Structure: Playgrounds - Kapow Primary