DESIGN and TECHNOLOGY

Skills Progression

We align our topics and units of study with the National Curriculum; however, we enrich our provision with PlanBee scheme of work and Oakfield's learning experiences that enable pupils to enjoy learning for life.

By the end of Key Stage 2 pupils and 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 (for example, the home, school, leisure, culture, enterprise, industry and the wider environment).

Pupils should be taught to:

Design	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces. Record design process
Make	Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, weighing, measuring, joining and finishing), accurately. Select from and use a wider range of materials, components and ingredients, including construction materials, textiles and food stuffs, according to their functional properties and aesthetic qualities.
Evaluate	Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world.
Technical Knowledge	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 how changing recipes will affect the finished product Apply their understanding of computing to program, monitor and control their products.

	Year 3	Year 4	Year 5	Year 6
Topics Studied	Sandwich Snacks	Catapults Banish Broken Biscuits Seasonal Food	Bread Moving Toys Photo Frames	Marionettes
Design	Generate ideas for a design, Consider purpose and users. Establish a success criteria for their product. Plan the order of their work before commencing Explore, develop and communicate the design ideas through modelling ideas Make design drawing with labels Disassemble and evaluate familiar products.	Generate ideas, considering purpose, users and brief. Make labelled drawing from different views Develop a clear order of what has to done. Planning how to use materials, equipment and processed. If attempts fail suggest alternatives Evaluate products based on a criteria Disassemble and evaluate familiar products.	Generate ideas through cooperative brainstorming and identify the purpose, user and validity of their design components. Draw up a specification for their product design drawing and labelling some features in more detail Record a clear order of what has to done. Planning how to use materials, equipment and processes. Evaluate products based on criteria and brief	Generate ideas through cooperative brainstorming and identify the purpose, user and validity of their design components. Communicate their ideas through detailed labelled diagrams. Develop a design specification Model ideas in a variety of ways Record a clear order of what has to done. Planning how to use materials, equipment and processes.
Make	Select tools and techniques for making their product. Measure, mark out, cut, and assemble components with some accuracy. Work safely and accurately with a range of simple tools. Think about their ideas as they progress and be willing change things if this improves their work. Measure, tape or pin, cut and join fabric with some accuracy. Demonstrate hygienic food preparation and storage. Use finishing techniques.	Independently select appropriate tools and techniques for making their product. Measure, mark out, cut and shape a range of materials, with increasing accuracy using appropriate tools, equipment and techniques. Join and combine materials and components accurately in temporary and permanent ways. Measure, tape or pin, cut and join fabric with more accuracy. Use simple graphical communication techniques.	Select appropriate materials, tools and techniques from a wide variety. Measure and mark out cut and shape a range of materials accurately. Use skills in using different tools and equipment safely and accurately. Cut and join with accuracy to ensure a good-quality finish to the product. Accurately apply a range of finishing techniques, including those from art and design. Use techniques that involve a number of steps. Demonstrate resourcefulness, e.g. make refinements.	Select appropriate tools, materials, components and techniques. Measure and mark out cut and shape a range of materials accurately. Use skills in using different tools and equipment safely and accurately. Assemble components make working models Use tools safely and accurately. Sew using a range of different stitches or weave or knit. Construct products using permanent joining techniques.

				Make modifications as they go along. Pin, sew and stitch materials together to create a product. Achieve a quality product.
Evaluate	Evaluate their product against original design criteria e.g. how well it meets its intended purpose.	Evaluate their work both during and at the end of the assignment. Evaluate their products carrying out appropriate tests.	Evaluate a product against the original design specification. Evaluate it personally and peer evaluation.	Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests. Record their evaluations using drawings with labels
Cooking	Know that a healthy diet is made up from a variety and balance of different foods and drinks, as depicted in the 'eat well' plate. Know that to be active and healthy, food is needed to provide energy for the body. Know that food is grown, reared and caught in the UK, Europe and the wider world. Know that seasons may affect the food available. Know how to prepare a variety of predominantly savoury dishes safely and hygienically. Know to use a range of techniques such as peeling, chopping, slicing, grating, mixing and spreading.	Measure using grams. Follow a recipe. Know that a healthy diet is made up from a variety and balance of different foods and drinks, as depicted in the 'eat well' plate. Know that to be active and healthy, food is needed to provide energy for the body. Know that food is grown, reared and caught in the UK, Europe and the wider world. Know that seasons may affect the food available. Know how to prepare and cook dish safely and hygienically including, where appropriate and with adult support, the use of a heat source. Know to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading and baking.	Measure using grams. Follow a recipe and know that it can be adapted by adding or substituting an ingredient. Know that a healthy diet is made up from a variety and balance of different foods and drinks. Know that to be active and healthy, food is needed to provide energy for the body. Know that food is grown, reared and caught in the UK, Europe and the wider world. Know that seasons may affect the food available. Understand that food ingredients can be fresh, pre-cooked and processed. Know how to prepare and cook a savoury product safely and hygienically including, where appropriate and with adult support where necessary, the use of a heat source.	Measure using grams. Follow a recipe and know that it can be adapted by adding or substituting one or more ingredients. Know what a healthy diet is Know that to be active and healthy, food is needed to provide energy for the body. Know that food is grown, reared and caught in the UK, Europe and the wider world. Know that seasons may affect the food available. Understand how food is processed into ingredients that can be eaten or used in cooking. Know how to prepare and cook a savoury dish safely and hygienically including, where appropriate and with adult support where necessary, the use of a heat source.

			Know to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	Know to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking