

Design and Technology

Year 5 Key Concepts

<u>Design</u>	<u>Design and Technology Key Concepts</u>	<u>Forest School Link</u>
<u>Make</u>	<p>I can identify the needs, wants, preferences and values of particular individuals and groups.</p> <p>I can use annotated sketches and cross-sectional drawings and exploded diagrams to develop and communicate my ideas.</p> <p>I generate innovative ideas, drawing on research.</p>	<p>Children identify and consider the needs, wants, preferences, and values of others when designing shelters, wildlife habitats, tools, games, or outdoor activities, ensuring that their projects are functional, safe, and enjoyable for the intended users.</p> <p>Not applicable to Forest School.</p> <p>Children generate innovative ideas by hands on experiences in order to extend their knowledge and understanding, and use these ideas to design shelters, wildlife habitats and games that are functional, creative, and suited to the environment.</p>
	<p>I can produce appropriate lists of tools, equipment and materials that I need.</p> <p>I can use techniques that involve a number of steps.</p> <p>I can select materials and components suitable for the task.</p> <p>I can demonstrate resourcefulness when tackling practical problems.</p>	<p>Children consider the tools and equipment they will need for their chosen task and may give instructions to each other to collect/source what they need.</p> <p>children often complete projects that require multiple steps, from planning to execution. Using multi-step techniques children develop sequencing, problem-solving, and precision, which are essential for creating functional and safe outdoor products.</p> <p>Children select appropriate natural or provided materials and components to create functional shelters, wildlife habitats, cooking, or nature art etc. ensuring that their designs are safe, durable, and effective.</p> <p>Children often work with limited or natural materials, face changing weather conditions, and encounter unexpected challenges. Children are resourceful when thinking creatively, adapting, and using available resources effectively to solve practical problems.</p>

	<p>I can apply a range of finishing techniques, including those from art and design, with some Accuracy.</p>	<p>Children learn that finishing techniques enhance both safety and aesthetics. The outdoor context provides immediate feedback — a decorated shelter may stand out more to visitors. Combines art, design, and practical making skills naturally. Encourages patience and precision in hands-on work.</p>
<p><u>Evaluate</u></p>	<p><u>Design and Technology</u> <u>Key Concepts</u></p> <p>I can critically evaluate the quality of the design, manufacture and fitness for purpose of my products as I design and make.</p> <p>I can evaluate my ideas and products against my original design specification.</p> <p>I can investigate and analyse how sustainable the materials in products are.</p> <p>I can investigate and analyse what impact products have beyond their intended purpose.</p> <p>I know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p>	<p><u>Forest School Link</u></p> <p>Children create real, functional products — such as shelters, wildlife habitats, and nature art etc. Evaluating quality and fitness for purpose throughout the process is continuously carried out as the children’s projects are tested immediately in the outdoor environment, providing instant feedback.</p> <p>Constructing shelters, wildlife habitats, and nature art etc. provides hands-on opportunities to see if the finished product meets the criteria they have set themselves at the start. Comparing outcomes to their original design idea helps children reflect on what worked, what didn’t, and how to improve.</p> <p>Not applicable to Forest School.</p> <p>Children identify that their projects — such as shelters, wildlife habitats, or nature art etc. can have effects beyond their original purpose. Children evaluate these impacts during their session which help them think about sustainability, safety, environmental consequences, and social effects, linking design with real-world responsibility.</p> <p>Children experience real-world contexts to see how products change lives. Den building etc. links history of design and invention with hands-on, outdoor exploration. Children value not only their own creations but also the impact of past innovations (Stone Age, Iron Age etc.) on how we live and survive outdoors.</p>
<p><u>Technical Knowledge</u></p>	<p><u>Design and Technology</u> <u>Key Concepts</u></p> <p>I know how to reinforce and strengthen a 3D framework.</p>	<p><u>Forest School Link</u></p> <p>children often build 3D structures such as shelters. Children show their understanding on how to reinforce and strengthen a framework to ensure their structure is stable, safe, and durable in an outdoor environment. Children experiment with natural materials to see how supports, and joint techniques improve strength.</p>

	<p>I know that food ingredients can be fresh, pre-cooked and processed.</p> <p>I know that a recipe can be adapted by adding or substituting one or more ingredients.</p> <p>I know how mechanical systems such as levers and linkages or pneumatic systems create movement.</p> <p>I know the correct technical vocabulary for the projects they are undertaking.</p>	<p>When cooking on the fire we talk about what food has been freshly made (freshly made dough), pre-cooked (marshmallows) or processed (for example jam for our bread).</p> <p>When cooking on the fire children may select alternative ingredients for example – a selection of herbs to choose from to change the taste of their bread, different ingredients in soup create a different flavour etc.</p> <p>Children feel forces (lifting, pushing, pulling) directly within their transportation of natural resources, constructing a see saw with wood and a log etc. By doing this they are also problem solving and will be considering how to move heavy logs (possibly introducing a lever).</p> <p>Names of tools, names of materials, methods of joining materials, ways to reinforce a structure to make it stronger, safer, stable etc.</p> <p>Examples of some terms that may be used: Structures - stability, strength, tension, compression, framework. Mechanisms - lever, linkage, pivot, pulley, gear. Materials & Tools - durable, flexible, resistant, lashing, knot, whittle, saw. Processes - joining, reinforcing, shaping, measuring, evaluating, refining.</p>
<p><u>Cooking and Nutrition</u></p>	<p><u>Design and Technology Key Concepts</u></p> <p>I know how food is processed into ingredients that can be eaten or used in cooking.</p> <p>I can demonstrate how recipes can be adapted to change the appearance, taste, texture and Aroma.</p>	<p><u>Forest School Link</u></p> <p>Children continue to learn about food and its processes when cooking in Forest School. Processing + cooking together: Wheat → flour → dough → bread on a stick. Vegetables → peeled, chopped → soup or stew. Fruit → chopped → stewed over fire.</p> <p>Children can adapt recipes in practical, hands-on ways — changing cooking methods (stick bread vs. pan bread), flavourings (herbs/spices), or proportions (more water = softer dough). This lets them experience how appearance, taste, texture, and aroma shift whilst engaging in outdoor cooking experiences.</p>