# Design and Technology

## Year 4 Key Concepts

| **Design** | **Design and Technology Key Concepts** | **Forest School Link** |
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| | I can gather information about the needs and wants of particular individuals and groups. | Children learn empathy and see how design serves humans and nature. The outdoor context makes "needs and wants" real and immediate — it's about comfort, safety, fun, and survival.<br>Pupils practice asking questions, listening, and adapting their ideas. |
| | I can use annotated sketches and cross-sectional drawings to develop and communicate my ideas. | Not applicable to Forest School. |
| | I can make design decisions that take account of the availability of resources. | Children learn real-world problem-solving: designs often change depending on what you can find. Children build their resilience as they learn that they can't always have what they planned, but they can adapt. Children learn about sustainability: using only what is naturally available, without over-collecting or wasting. |
| | I can develop my own design criteria and use these to inform my ideas. | children constantly design with purpose — shelters, tools, games, cooking etc. Developing their design criteria helps them think carefully about what their creation needs to do, rather than just building randomly.<br>Children build independence as they create their own set of "success rules" (criteria) and use them to guide their decisions. |
| **Make** | **Design and Technology Key Concepts** | **Forest School Link** |
| | I can explain my choice of materials and components according to functional properties and aesthetic qualities. | Children think critically about materials in a hands-on way. They learn to justify their choices. They understand that function and aesthetics are both important.<br>The outdoor environment provides immediate feedback: a weak den collapses, a colourful habitat attracts attention, etc. |
| | I can apply a range of finishing techniques, including those from art and design, with some Accuracy. | Children learn that finishing techniques enhance both safety and aesthetics. The outdoor context provides immediate feedback — a decorated wildlife home may stand out to more animals. Combines art, design, and practical making skills naturally. Encourages patience and precision in hands-on work. |

| **Evaluate** | **Design and Technology Key Concepts** | **Forest School Link** |
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| | I consider the views of others, including intended users, to improve my work. | Children test and evaluate their creations with theirs peers**.** Considering the views of others helps them adapt designs, improve functionality, and ensure their work meets real needs**,** whether for humans, animals, or the environment. |
| | I can investigate and analyse how well products meet user needs and wants. | Children investigate and analyse their outdoor projects**,** ensuring that shelters, tools, habitats, games, or food meet the needs and wants of the intended users**,** and use their observations to improve their designs. |
| | I can investigate and analyse who designed and made the products. | Not applicable to Forest School |
| | I can investigate and analyse where and when products were designed and made. | Not applicable to Forest School |
| | I can investigate and analyse why materials have been chosen.<br>I can investigate and analyse whether products can be recycled or reused. | Children investigate and analyse the materials they and others use, understanding why each material was chosen for strength, safety, function, and appearance, and apply this knowledge to improve their own designs. Children can also investigate what materials in Forest School can be recycled and/or reused – logs, sticks, tarpaulins, rope etc. |
| | I know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products. | 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 valuate not only their own creations but also the impact of past innovations (Stone Age, Iron Age etc.) on how we live and survive outdoors. |
| **Technical Knowledge** | **Design and Technology Key Concepts** | **Forest School Link** |
| | I know that materials can be combined and mixed to create more useful characteristics. | Children combine and mix natural materials to improve shelters, create food, make wildlife habitats, or art etc. And discover how layered or combined materials can be stronger, more durable, or more functional**.** |
| | I know how to use learning from science to help design and make products that work. | Children use scientific knowledge about materials, forces, biology, and heat when taking part in Forest School. For example: knowledge of forces and stability, and understanding waterproofing when building dens. Building wildlife habitats etc. and applying their biology knowledge i.e. birds need small openings, insects need warmth and shelter. Using their environmental science by placing feeders in safe, shaded spots etc. |

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| | I know that mechanical and electrical systems have an input, process and output.<br>I know how simple electrical circuits and components can be used to create functional products.<br><br>I know the correct technical vocabulary for the projects they are undertaking. | Children design and test simple mechanical systems, such as levers, pulleys or sliders, observing how input, process, and output work together to create functional, outdoor-ready products.<br><br>Names of tools, names of materials, methods of joining materials, ways to reinforce a structure to make it stronger, safer, stable etc.<br>Examples of some terms that may be used:<br>**Den Building -** structure, frame, support, shell, stability, waterproof, join, strengthen.<br>**Wildlife Habitats (Bird Feeders / Bug Hotels) -** habitat, insulation, secure, durable, entrance, layering.<br>**Tools -** handle, blade, shaft, joint, carve, notch, smooth.<br>**Mechanical Systems (Levers, Pulleys, Sliders) -** ***i***nput, output, process, fulcrum, force, movement, mechanism.<br>**Nature Art / Weaving -** flexible, rigid, weave, texture, pattern, combine, layer. |
| **Cooking and Nutrition** | **Design and Technology Key Concepts**<br><br>I can demonstrate how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.<br><br>I know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell plate.<br>I know that to be active and healthy, food and drink are needed to provide energy for the body. | **Forest School Link**<br><br>Children peel sticks in Forest School.<br>Children shape wood using a knife.<br>Children use saws to cut wood.<br>Children use Secateurs to trim branches.<br>Children mix and knead etc when creating food in the mud kitchen.<br><br>Children talk about healthy eating when cooking and eating in Forest Schools.<br>They talk about eating things in moderation – sweets, fruit etc.<br>Children eat their snacks at the beginning of Forest Schools and we talk about how our food gives us energy etc. We talk about how important it is to keep ourselves hydrated, especially during the hot weather. |