

## DT Scheme of Work

Y6 Bird houses	
<b>Links made with other subjects</b>	English, science, maths
<b>The BIG Question</b>	Can you build a bird house.
<b>The BIG Outcome</b>	To design and build a stable house to feed birds
<b>DT objectives</b> (link to NC)	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>Design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> </ul> <p><b>Evaluate</b></p> <ul style="list-style-type: none"> <li>Explore and evaluate a range of existing products</li> <li>Evaluate their ideas and products against design criteria</li> </ul> <p><b>Technical knowledge</b></p> <ul style="list-style-type: none"> <li>Build structures, exploring how they can be made stronger, stiffer and more stable</li> <li>Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</li> </ul>
<b>Prior knowledge</b> What prior knowledge is needed for children to be successful in this unit?	<ul style="list-style-type: none"> <li>Used different joining and cutting methods relating to paper and card</li> <li>Use a range of measuring, marking-out, cutting and assembling techniques</li> <li>Learnt the differences between 2D and 3D shapes</li> <li>Use nets to create 3D shapes</li> </ul> <p>This unit builds on:</p> <p>Year 1 - Moving pictures, castles</p> <p>Year 2 – Make a wheeled toy – build a car garage</p> <p>Year 3 – Greenhouses</p> <p>Year 4 – packaging</p> <p>Year 5 – Building bridges</p>
<b>Future learning</b> Consider the conceptual knowledge within a subject that pupils need for future learning not just the recall of facts but the importance of concepts	This unit gives prior knowledge to: KS3 Curriculum
<b>DT strands</b>	<p><b>Design</b></p> <ul style="list-style-type: none"> <li>Design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> </ul>

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<b>Vocabulary/ Glossary</b>	Materials, wood, dowling, join, hammer, fasten, sandpaper, clamp, saw, sturdy, strong, constructing, modify
<b>Knowledge</b> (see italics for knowledge to remember)	<p>The knowledge that children will learn and remember:</p> <p><i>1. Investigate and analyse a range of existing products.</i></p> <ul style="list-style-type: none"> <li>To investigate the purpose and appearance of bird houses. Teaching: Ask children to discuss with a partner what types of birds they have seen in their garden and where they might live. Have you ever seen a bird house before? What do they look like? Why are they made? Show the class different pictures of bird houses and invite them to discuss why a bird might choose to live in them and why they were made. Explain to your class that bird houses are designed to attract a particular type of bird species. Birds have specific needs and their homes need to reflect their needs. Show the class some common garden birds in England and the type of bird house they would need to live in and why. Discuss conserving the bird population. Children to watch the video in files or on (<a href="https://youtu.be/d7ufNxb_EYA">https://youtu.be/d7ufNxb_EYA</a>) discuss and answer questions.</li> </ul> <p><i>2. Generate, develop, model and communicate their ideas through discussion and annotated sketches.</i></p> <ul style="list-style-type: none"> <li>To investigate the materials and features of bird houses and how to draw diagrams. Children to work in groups and discuss the different materials you would need and could use to make a bird house. What things do you have lying around your house or in the classroom that could be used to make a bird house? Show children pictures of different bird houses and ask them to record the materials used and the features. Look at a picture of a wooden bird house and ask children to discuss how the wooden pieces were cut and joined together. Show, discuss and explain a flat pack diagram, a 3-D diagram with different views and an exploded diagram of the same wooden bird house and explain what these diagrams are and why they are drawn for design and technology projects. Children to use one of the three diagrams to design their own bird house.</li> </ul> <p><i>3. Use a range of tools and equipment to perform practical tasks accurately.</i></p>

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- To investigate and practise woodwork skills.

Areas in the classroom to be set up like a woodwork shop for this lesson. Children will need space to clamp pieces of wood to tables, enough space to use saws and hammers and access to a hot glue gun area in a safe environment.

Copies of safety guidelines to be displayed on tables/whiteboard.

To learn and practise some key woodworking skills.

Discuss how woodworking tools and equipment might be used by someone.

Show children the skills involved in basic woodwork and demonstrate how to do them. The main skills you will show your class are: marking out, clamping, sawing, sanding, using a hand drill, nailing and glueing.

Discuss safety precautions the importance of keeping safe before using any of the woodwork tools.

4. Select and use tools suitable for the task, explaining their choices, to cut, shape and join paper and card.

- To be able to design a bird house for a specific bird.
- To be able to make a bird house by following a plan.

Write a detailed plan for the bird house they want to make taking into consideration the tools they will need to make this.

What bird will you make your bird house for?

What are their requirements?

What materials will you use?

What tools and equipment will you need to use?

What safety precautions will you need to take?

How will you decorate your bird house?

What extra features will you add to the main construction?

Use of Chromebooks/iPads to pick a bird to design their bird house for and to list their requirements.

Draw flat pack, 3-D or exploded diagrams on sketching paper to add to their design brief.

How will you ensure you stick to your plan and what will you do if you get stuck during the process?

Children to think about whether their bird house will be hung, placed on the ground, mounted to a tree or a wall or something else?

Children to be reflective and amend their plans before they start making their bird house.

Show children the steps involved in making the main bird house box.

Use simple finishing techniques suitable for the product they are creating.

6. Know and explain how to create a stable structure (children to think and talk through how their structure stands and what holds it together.)

7. Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets the design criteria.

- To evaluate, make predictions and promote a completed bird house.

On completion of the bird house children to make predictions on how successful it will be and whether birds will come it.

Evaluate the materials used and why.

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	<p>Where will the bird houses be displayed – why? If you could go back and change anything, what would it be?</p>
<b>SEND expectations</b>	<p>The knowledge that children will learn and remember:</p> <p><i>1. Investigate and analyse a range of existing products.</i></p> <ul style="list-style-type: none"> <li>To investigate the purpose and appearance of bird houses. What do bird houses look like? Why do birds need a bird house? Why do people make bird houses? Describe what you saw in the bird house video. Children to answer the following questions in their books.</li> </ul> <p><i>2. Generate, develop, model and communicate their ideas through discussion and annotated sketches.</i></p> <ul style="list-style-type: none"> <li>To investigate the materials and features of bird houses and how to draw diagrams.</li> </ul> <p><i>3. Use a range of tools and equipment to perform practical tasks accurately.</i></p> <ul style="list-style-type: none"> <li>To investigate and practise woodwork skills.</li> </ul> <p><i>4. Select and use tools suitable for the task, explaining their choices, to cut, shape and join paper and card.</i></p> <ul style="list-style-type: none"> <li>To be able to design a bird house for a specific bird.</li> <li>To be able to make a bird house by following a plan.</li> </ul> <p>Use simple finishing techniques suitable for the product they are creating.</p> <p><i>6. Know and explain how to create a stable structure</i> (children to think and talk through how their structure stands and what holds it together.)</p> <p><i>7. Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets the design criteria.</i></p> <p>To evaluate, make predictions and promote a completed bird house.</p>
<b>Resources</b>	<p>Plenty of balsa wood, dowling rods of different sizes, wood work tools and equipment and possibly parental help for this lesson.</p>