

Design and Technology Year 1 Spring 2

Structures: Stable Bridges

Prior Learning in Reception:

Construction

- Use equipment and tools to build, construct and make simple models and props.
- Use large construction items safely, with good control and purposefully.
- Use small construction items with good control and purpose.
- Handle and use equipment appropriately and safely.
- Explore different ways to join materials – glue, tape, masking tape, holes/string etc...

Final Outcome: To create a stable bridge for the three billy goats to cross



Key Vocabulary

design
model
structure
arrange
material
join
strong / weak
stable
bridge

Objectives

taken from Progression Document

Design

- Use pictures and words to convey what they want to design/make
- Propose more than one idea for their product.
- Use kits/reclaimed materials to develop more than one idea.
- Model ideas with kits and reclaimed materials
- Select appropriate technique explaining: First... Next... Last...
- Explore ideas by rearranging materials
- Select pictures to help develop ideas
- Use drawings to record ideas as they are developed.

Key Knowledge

Children will know that a bridge is a structure that allows people and vehicles to cross over an open space.

Bridges span, or stretch across, deep pits in the earth, bodies of water, and roads.

Children will know that bridges have to be safe for people or vehicles to go across.

Bridges need to be strong and stable so they do not break.

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| | <ul style="list-style-type: none">• Add notes to drawings to help explanations.• Describe their models and drawings of ideas and intentions. <p>Make</p> <ul style="list-style-type: none">• Discuss their work as it progresses.• Select materials from a limited range that will meet the design criteria.• Select and name the tools needed to work the materials (card, paper, felt, film, paint, scissors, glue, tape, hole punch)• Explain what they are making.• Explain which materials they are using.• Name the tools they are using.• Describe what they need to do next. <p>Technical Knowledge Structures: Freestanding structures</p> <ul style="list-style-type: none">• Explore how to make structures stronger.• Investigate different techniques for stiffening a variety of materials.• Join appropriately for different materials and situations e.g. glue, tape.• Test different methods of enabling structures to remain stable.• Use a glue gun with close supervision.• Mark out materials to be cut using a template. <p>Evaluate</p> <ul style="list-style-type: none">• Explore existing products and investigate how they have been made.• Decide how existing products do/do not achieve their purpose. | <p>Materials can be joined to make them strong and stable.</p> |
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| | <ul style="list-style-type: none">• Talk about their design as they develop and identify good and bad points.• Say what they like and do not like about items they have made and begin to say why. | |
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