



Lowerhouse Junior School

Design & Technology Overview Sheet



Year 6 – structures– create a stable shelter structure



Key Learning: Pupils who are **secure** will be able to:

Year 6 structures/textiles

- Use the correct terminology for tools, materials and processes.
- Cut metal wire, strip wood, dowel, or square section wood accurately.
- Join materials using appropriate methods.
- Build frameworks to support mechanisms.
- Stiffen and reinforce complex structures.
- Identify the strengths and weaknesses of their design ideas.

Plan

- Research and evaluate existing products (including book and web based research).
- Consider user and purpose.
- Understand how key people have influenced design.

Design

- List tools needed before starting the activity.
- Plan the sequence of work e.g. using an exploded diagrams to communicate ideas.
- Record ideas using annotated diagrams.
- Use models, kits and drawings to help formulate design ideas.
- Devise step by step plans which can be read / followed by someone else.
- Sketch and model alternative ideas.
- Decide which design idea to develop.

Make

- Make prototypes. (using lego)
- Develop one idea in depth.
- Use researched information to inform decisions.
- Produce detailed lists of ingredients / components / materials and tools.
- Use a computer to model ideas.
- Select from and use a wide range of tools.
- Cut accurately and safely to a marked line.
- Select from and use a wide range of materials.
- Use appropriate finishing techniques for the project.
- Refine their product – review and rework/improve.

Evaluate

- Research and evaluate existing products (including book and web based research).
- Consider user and purpose.
- Identify the strengths and weaknesses of their design ideas.
- Give a report using correct technical vocabulary.
- Consider and explain how the finished product could be improved related to design criteria.
- Discuss how well the finished product meets the design criteria of the user. Test on the user!
- Understand how key people have influenced design.

Learning Intentions

Lesson 1: To understand the purpose of tents and how they are made.

Lesson 2: To research ideas for my chosen design.

Lesson 3 –To design a stable structure.

Lesson 4 – To plan my final product.

Lesson 5 –To make my final product.

Lesson 6 –To evaluate my final product.

Overview:

Lesson 1: children should understand how tents are made and the purpose of them.

Lesson 2: Children to research different shaped tents to provide design choice for their final design.

Lesson 3: Children design their tent structure using annotated drawings.

Lesson 4: Children create an exploded diagram of how they are going to make their structure using chicken wire.

Lesson 5: children make their tent structure and add material covering.

Lesson 6: Children evaluate their final tent structure based on needs of the user.

Cross Curricular Links

Resources

Garden wire, safety pliers, plastic coated material,

Key Vocabulary

Shelter, stability, frame, tension, fabric, joints, structure, triangular, durable, waterproof, rigid, support, measure, cut, assemble, attach, secure, tie, covering, fasten, join