

Newall Green Primary: Knowledge Organiser
Year 4 - Design & Technology - Spring 2024
Focus: Mini Greenhouses



What should I already know?

How to research and develop a design criteria.
How to develop and communicate design ideas.
Select and use a wide range of materials, tools and equipment to perform practical tasks.
How to investigate and analyse existing products.
How to evaluate my work.

What will I learn?

I know what a greenhouse is and how they work.

I know that the weight of a structure needs to be spread on the base to make it secure.

I can use 3D nets to explore potential structures for a greenhouse, assessing their stability.

I can investigate ways of making structures more stable.

I can experiment with a range of materials.

I can design a mini greenhouse using a specific design criteria.

I can follow my design.

I can select appropriate materials.

I can evaluate my finished mini greenhouse for stability, visual appeal and effectiveness.



What vocabulary will help me?

A **greenhouse** (also called a glasshouse or hot-house) is a building where plants such as flowers and vegetables are grown. Greenhouses warm up during the day via a penetration of the sun's rays which heat the plants, soil and structure.

A **Stable structure** is a structure which will not topple over easily.

Material is the matter from which a thing is or can be made from.

A **frame** is a rigid structure that surrounds something such as a picture, door, or window-pane.

A **design** is a plan or drawing produced to show the look and function or workings of a build-



Which famous inventor is related to our focus?

Sir Nicholas Grimshaw - a British architect (designer of buildings) who is famous for planning many award winning buildings including the Eden Project in Cornwall. The Eden Project is a set of eight 'biomes' made from steel tubes and inflated plastic cells.

The 'biomes' create a different environments to encourage the growth of plants from outside of the UK. These include a rainforest environment and a Mediterranean environment.

