

Structures: Stable Structures

Curriculum Coverage:

Design

- Design purposeful, functional, appealing products for themselves and other users based on design criteria
- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- Explore and evaluate a range of existing products
- Evaluate their ideas and products against design criteria

Technical Knowledge

- Build structures, exploring how they can be made stronger, stiffer and more stable

Key Facts:

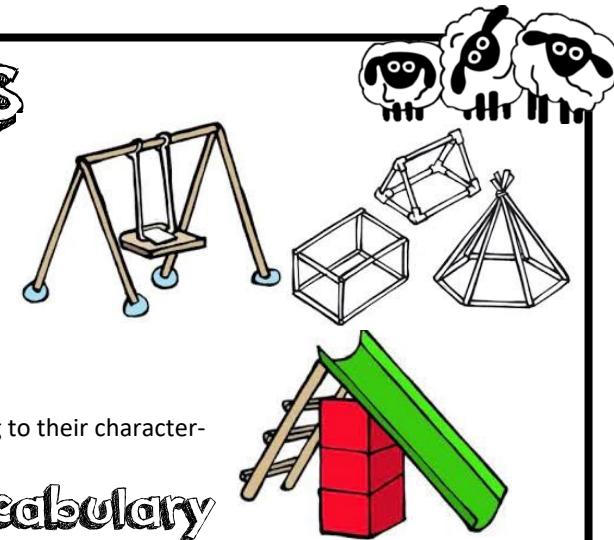
- Structures are built to serve a purpose and have strong stability.
- Stable structures stay upright and do not fall over easily.

Key Skills:

- Explore a variety of stable structures (playgrounds, tree houses etc.) to create an understanding of what makes them stable (shapes used, weight, base, surface built on, joins etc.)
- Create simple 2D and 3D structures using straws/pipe cleaners/sticks learning different ways of making these frame structures stronger, stiffer, and more stable.
- Test designs and make improvements based on the success of their original model.
- Evaluate the effectiveness of their model through brief annotations and class discussions on whether their model worked or not based on a pre-set criteria (stability).

Possible experiences:

- Compare structures both in and outside their environments.
- Take part in an KS1 architecture workshop.



Key Vocabulary

Stability	Being steady and not
Base	The bottom part of a structure which supports it
Frame	The skeleton of an object; stiff support which holds other parts
2-dimesnional	A flat shape that only has length and width
3-dimensional	Things you can hold; they have length, width and depth

We should already know:

- Structures like bridges must be strong so they do not fall down.
- Tests help us understand if something we have created works.
- Different shapes can make specific structures (bridges) stronger.
- Stacking, balancing and joining can make structures more stable.