

## Joining materials to make a stable structure

### Design to a brief; create and evaluate a climbing sculpture

**Aim:** Carry out a construction task using natural materials of all kinds.

**Activity:**

Pupils plan and make a scale model of a three-dimensional sculpture, that is strong enough to be 'climbed on' by Lego / Playmobil people (or similar). The challenge is not only to make the structure strong, but also aesthetically pleasing and elegant. Structures are then peer evaluated to gain suggestions for improvements.

- Review prior knowledge of structures, the 'magic' triangle, methods of fixing, tool use and safety.
- Agree a class 'brief' – what would a young child need from a climbing structure? What would a school's requirements be? What is a reasonable amount of money to spend on a piece of play equipment?
- Experiment with different knots and other fixing techniques.
- If a workshop with tools is available, demonstrate techniques such as dowel jointing and lap jointing.
- Select from a range of materials; see Resources.
- Pupils should sketch their design, then make, test, and refine their structure.
- Annotate a drawing of the structure labelling the component parts, with construction notes that would explain how to make the same product, to another person.



**Resources:**

- Sticks from a variety of plants with different levels of pliability, robustness, and aesthetic value e.g. red stemmed dogwoods, willows, hazel, silver birch, any pruning from the grounds maintenance team or friendly gardeners.
- A range of ropes, twines and strings of different thicknesses and strengths to suit the purpose.
- Natural materials such as cones, seed heads etc.
- Playmobil or Lego figures or pipe cleaner people.
- Tools.

**More springboards:**

- Learning Springboard: Design Technology - Grow your own craft resources
- Pappus Playful Springboard - Hazel
- Pappus Plant ID fact sheets - Willow
- Muddy Faces 'Knots' factsheet – see Pappus resource library.

**Key vocabulary:**

Design, make, evaluate, stronger, stiffer, more stable, cut, shape, join, finish

**Success criteria:**

- ✓ I can design, make and evaluate a project based on a design brief.