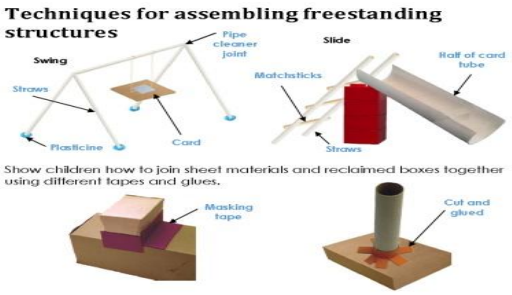
D&T – Freestanding Structures
Year 1: Autumn 1

Key Vocabulary

Freestanding structure – a structure that can stay upright on its own without help from external forces or without being bolted or attached.
Frame structure -A frame is a rigid support structure that gives shape and forms support for its parts. The word rigid means stiff, not bending or changing shape.
Shell structure - a curved, light-weight structure. Examples of natural shell structures; coconut shells, tortoise shells, sea shells and nut shells. Examples of man-made shell structures; tunnels, roofs, helmets, drink cans and boats.
Buttress -a structure built against a wall or building to give support and strength.
Stability - the condition of being reliable or unlikely to change suddenly or greatly.
Brick bonding –an arrangement of bricks or other building units that ensures its stability and strength.

Key Questions

- What are the structures called and what is their purpose?
- How have the parts been joined together?
- How can your product be made stronger and stiffer in order to carry a load?
- Who will your product be for and what will be its purpose?



Key Skills

• Develop, model and communicate ideas through talking, mock-ups and drawings.
• Select new and reclaimed materials and construction kits to build structures.
• Use simple finishing techniques suitable for the structure they are creating.
• Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings.
• Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.
• Know how to make freestanding structures stronger, stiffer and more stable.

Concepts

Technical Knowledge - Technical knowledge is an understanding of modern technology, its working and advances. Your detailed understanding of anything that can be applied or reasoned with in any shape or form for any issues or applications is technical knowledge.

Website Links

https://www.youtube.com/watch?v=LvP20En73xc
https://www.stem.org.uk/resources/community/collection/285271/structures