



Cycle A Spring Term Year 1/2 DT Knowledge Organiser - Structures

Key Vocabulary

Cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder design, make, evaluate, user, purpose, ideas, design criteria, product, function.

Glossary

Client	The person you are designing something for.
Design	To make, write or draw plans for something.
Design Criteria	A set of rules to help you with your ideas and test the success of them.
Evaluation	To look at the good and bad points of something and think about how you can improve it.
Net	A flat 2D shape, that can become a 3D shape once assembled.
Stable	Object does not easily topple over.
Structure	Something that has been made and put together, like a building, bridge, chair, table.
Windmill	A structure with sails that are moved by the wind.
Axel	The point from which the turbine or sails move.
Turbine	The parts that move in the wind

Learning Objectives

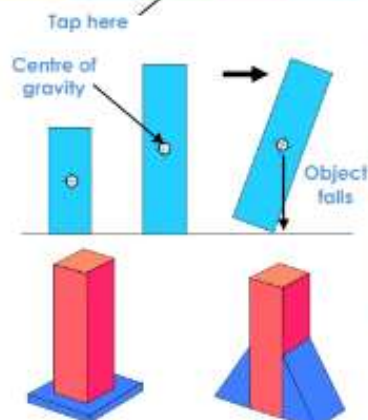
- I can create a stable structure
- I can use tools and equipment accurately to make part of a structure
- I can join parts of a structure
- I can evaluate a structure

Examples of Structures.



Technical Knowledge:

Which wall do you think will be the strongest?
Why?

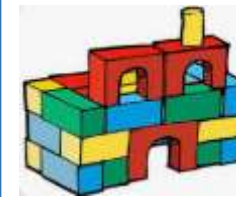


As a freestanding structure becomes taller its centre of gravity rises. Stability in a structure can generally be increased by making the base wider, making the base heavier or adding buttresses.
Ask the children to build and explore a variety of freestanding structures through focused tasks. Use a range of construction kits.

Wider bases and buttresses for stability

(Sticky) Knowledge & Skills that I need to remember

Types of Structures:



• **Freestanding structure** – a structure that stands on its own foundation or base without attachment to anything else.



• **Frame structure** – a structure made from thin components e.g. tent frame.



• **Shell structure** – a hollow structure with a thin outer covering.



A **Windmill** is a structure with sails that are moved by the wind.

The **Axel** is the point from which the turbine or sails move

The **Turbine/Rotor/Sail** is the part that moves in the wind.

1: What is a windmill?

- a) A building that stores water.
- b) A structure with sails that are moved by the wind.
- c) A building that stores energy from the sun.

2: What do we mean by stable?

- a) A shelter for a horse
- b) A structure that is bendy
- c) That something does not topple over easily.

3: Who is the user?

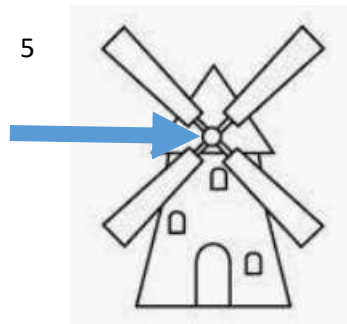
- a) Someone who performs magic tricks.
- b) The person you are paying money to.
- c) The client you are designing something for.

4: Why is it important to test something?

- a) To check if you are happy with how it looks.
- b) To find out whether something works as it should.
- c) To put it up for sale.

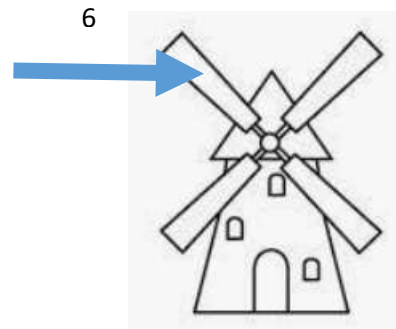
5: Which part of the windmill is the arrow pointing to?

- a) Axle
- b) Turbine
- c) Structure



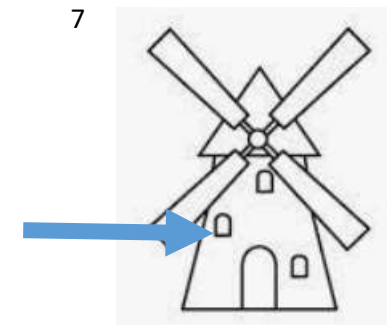
6: Which part of the windmill is the arrow pointing to?

- a) Turbine
- b) Structure
- c) Windmill



7: Which part of the windmill is the arrow pointing to?

- a) Axle
- b) Structure
- c) Windmill



8: What are 2 other types of freestanding structure?

- a) Shed and slide
- b) Car and shed
- c) Tent and slide