



Y4 We Are Engineers: Christmas Lanterns — Knowledge Organiser



Key Knowledge

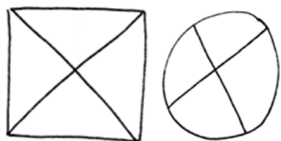
Learn this information

A lantern is a sculpture (usually 3D) that lights up.

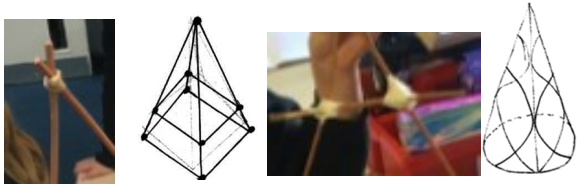
Most modern lanterns are constructed for their aesthetic qualities and are used as decorations, or in celebrations across the world, such as Chinese New Year and Diwali – The Hindu Festival of Light.



The base of a structure is what the lantern will sit on. It supports the majority of the lantern's weight and therefore needs to be strong and stable. It can be a variety of shapes, below are the plans for a square and circular base lantern, but you could also make a star or other shape. Willow is strong and flexible and therefore it can be easily manipulated in a variety of ways.



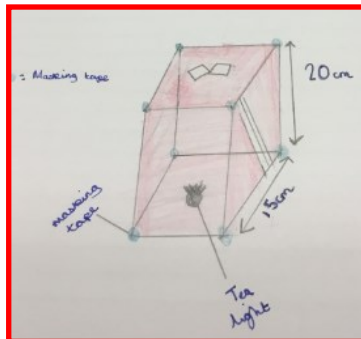
To manipulate and join this material to create a 3D structure, you can tie an elastic band around the ends of the willow to join them together. When fixing a brace to give the structure more support, you will need to wrap masking tape around both pieces of willow to join them securely.



Key Skills

Practise and perform these skills

Design, sketch and annotate a lantern with measurements and details of fixings.



Consider where the candle lights are positioned and how it can be accessed.

How to use a coping saw safely to cut the willow:

Before cutting the willow, use a pencil to draw a line to cut along. This will be your guide.

To safely use the coping saw, **firmly hold the wood in a jig**. *If you are right-handed, hold the saw in your right hand and the wood with your left.* If you are left handed, see the photo below for your correct positioning!

Place the saw's central teeth on the line to be cut and push the saw away from you in a short stroke to start the cut. Continue the cut, pushing and pulling firmly but gently. Go slower when the saw is almost all the way though so the wood doesn't split.

For safety, keep hands and other objects away from the sharp teeth.



Key Vocabulary

Understand these key words

Word	Definition
Lantern	A sculpture (usually 3D) that lights up.
3D	Three-dimensional - something you can hold, not flat!
Sculpture	The art of carving, modelling, welding, or otherwise producing works of art in 3D.
Willow	Wood from a willow tree, very thin and flexible.
Base	The lowest part or of something, especially the part on which it rests or is supported - the bottom of the lantern.
Frame	An open structure that gives shape and support to something.
Fixing	The action of fastening something in place or to another thing.
Brace	Something that supports weight or pressure such as a diagonal piece of structural material that strengthens the structure. 
Covering	Used to protect, decorate, or conceal something else. Tissue paper is used as a covering for lanterns. 
Coping Saw	A saw with a very narrow blade stretched across a D-shaped frame, used for cutting curves in wood/ thin wood. 
Jig (Cutting block)	A device that holds a piece of wood in place and guides the tool operating on it. 
Cutting mat	A cutting mat is used to protect the surface you are cutting on but it also has grip and therefore stops the jig from sliding.
Horizontal	A horizontal line is a line that runs right and left across the page.
Vertical	A vertical line is a line that runs up and down the page.
Join (multi-directional)	Link/connect, for Christmas lanterns we use elastic bands and masking tape to join the willow together in many different directions.