

Year 7: Designing through sketching and modelling.



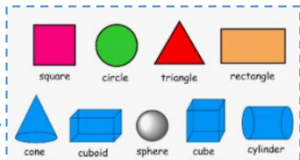
MAKING MODELS



2D & 3D



NETS



**2D and 3D sketching skills**

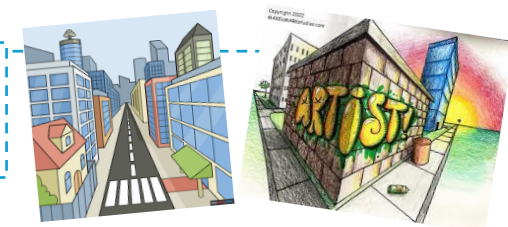
Freehand sketching is the quickest way of getting your initial designs on paper before an idea is forgotten. Freehand sketches are often done without a ruler or template and instead are produced quickly and freely. They can be shown in 2D or 3D. 3D drawings encourage the designer to consider what the product looks like from different angles and whether or not they need to adapt or change their ideas.

Isometric drawings are 3D representations of a design with no vanishing points. Oblique projection offers a view that shows an object from the front, with its sides projected at 45 degrees.

**Perspective drawing**

Perspective is our 'point of view'. We each have a different literal perspective depending on where we are, how tall/short, high/low, near/far the viewpoint is positioned from the viewed object. Single-point perspective shows an object from the front in a realistic way as it gets smaller going into the distance. The front view goes back towards a vanishing point. Two-point perspective shows an object from the side with two vanishing points. It gives the most realistic view of a product as it shows the item edge on, as we would see it. It is often used to produce realistic drawings of an object.

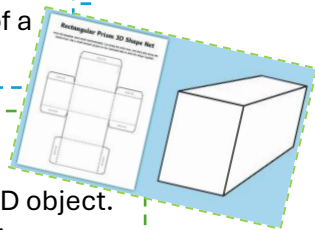
**Task:** watch the videos of [single](#) and [two point](#) perspective drawing and try drawing a cube in each style.



**Task:** Draw a 2D, oblique projection and isometric drawing of a cup or glass.

**Turning 2D into 3D**

A net is a designed 2D shape / pattern that can be folded into a 3D object. In most cases the net is then covered in a graphic packaging design. are designed to be used by one user group and not another e.g. braille is only designed for the blind; bottles for medicines and cleaning products are often tamper-proof and designed for adults only; some products are prohibitively expensive, and their exclusivity adds to their value in the minds of users.



**Task:** Click here to access different nets. If you have access to a printer, print some off and build them up. If not, have a go at drawing a few out then building them up.

**Making a model** allows designers to visualise and test how a product looks and performs in 3D and is a great way of checking a product's viability.



**Task:** Discuss the importance for a model to accurately represent the final product in design technology projects

Vocabulary associated with this unit:

Rendering, 3D, 2D, isometric projection, oblique projection, one-point perspective, two-point perspective, horizon line, vanishing point, projection, view, CAD, specification, brief.

**Task:** define these words using [this website](#) to help you.