

S1-3 Broad General Education

OLHS Technical Department

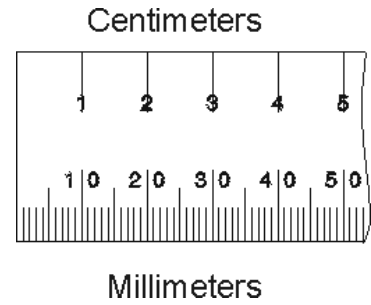


Manual Graphics

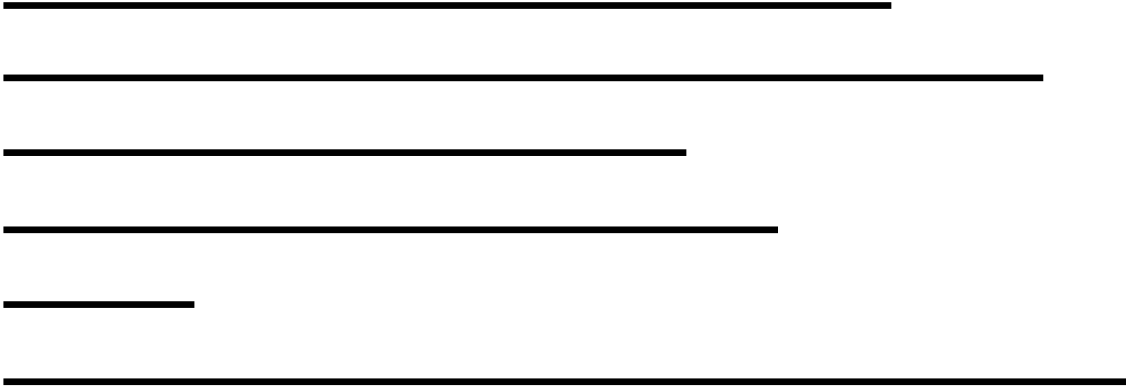
Booklet

Measuring Task 1

In Graphic Communication we measure using the unit of **millimetres** (mm). You may be used to measuring already in units of centimetres (cm). There are **10 mm in 1 cm**.



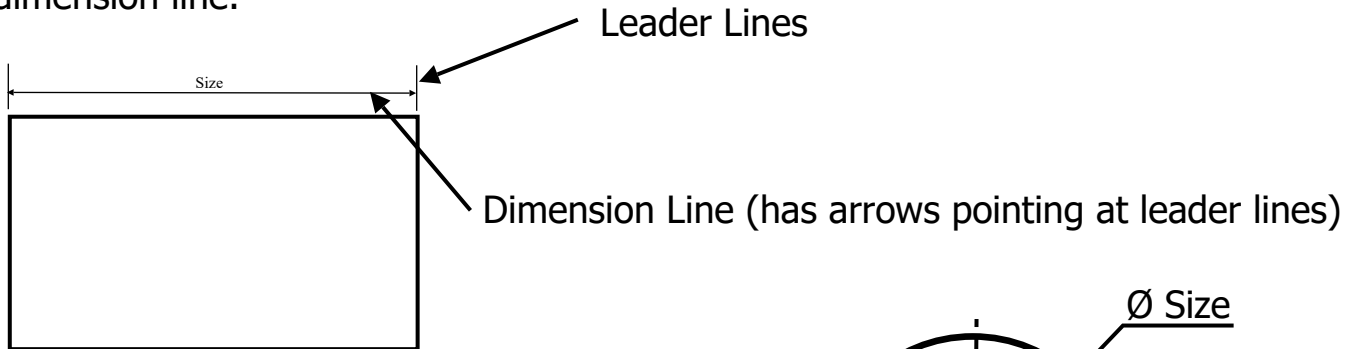
Here are some lines for you to measure their **length**.



Dimensioning

When adding sizes to a drawing this is called **dimensioning** (adding dimensions). There are 3 parts to this; adding Leader lines, adding a dimension line, and putting the dimension in the correct place.

- Leader lines and the dimension line show what is being measured.
- The dimension (size) is written on top of the line, above the centre of the dimension line.



Circles are dimensioned with a **diameter**. The symbol for diameter is \emptyset .

The diameter is the distance across the circle, through the center.

Green



Amber

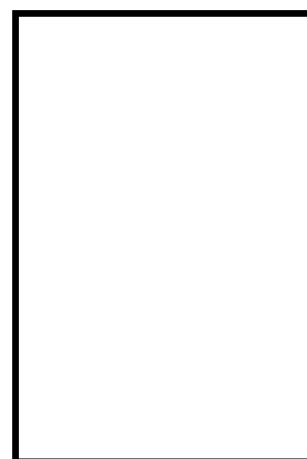
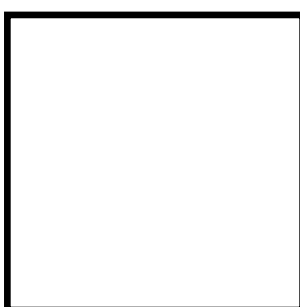
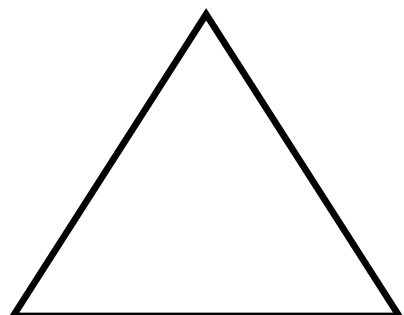
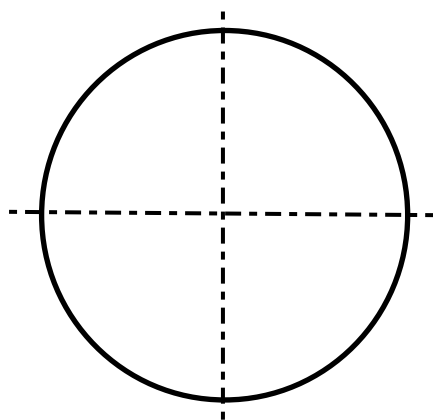
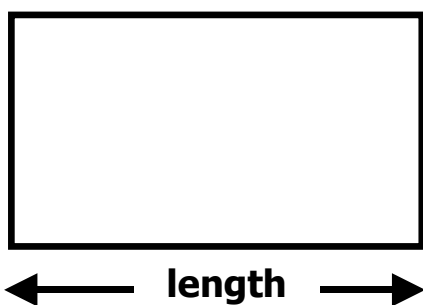


Red



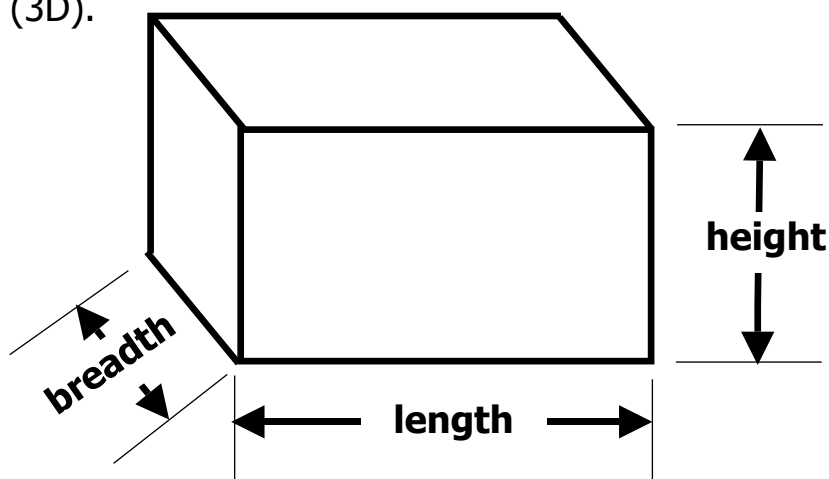
Measuring Task 2

Now here are some 2-dimensional-shapes for you to measure. You can measure their **length**, **height** and, **diameter**.



3D

By adding the **breadth** (thickness) we make the shape change from 2-dimensions (2D) to 3-dimensions (3D).



Green

Amber

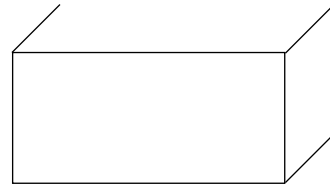
Red

Oblique Sketching

When drawing an object in **oblique** view we start by **constructing** a flat, **2-dimensional** view first.

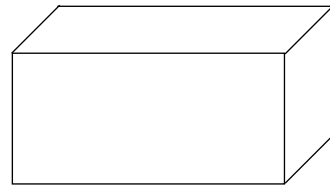


The next step is to draw a sloping line at an angle of **45°** (half of a right-angle) from the corners of the shape.

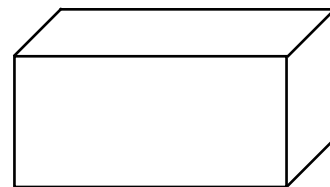


These lines will represent the depth of the object being drawn and are all the same length.

To complete the box add **parallel** lines to join the corners.



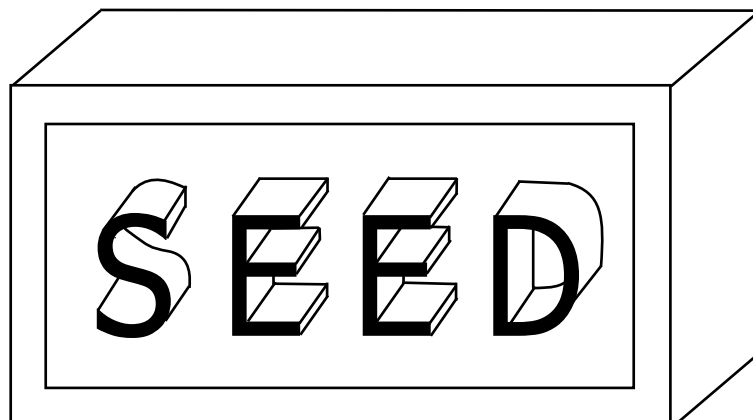
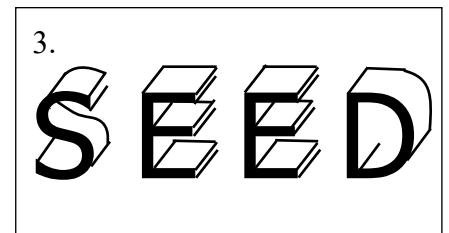
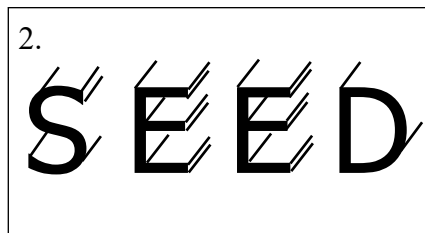
Remember to keep your lines **nice and light** at first (**construction lines**). When you are happy with your drawing you can **outline** your work to **define** it.



Practise sketching different shapes and letters using the oblique technique.

You could design a box of bird feed or design your own name plate.

Remember to keep all the depth lines going in the **same direction** and at an **angle** of 45°.



Green



Amber



Red



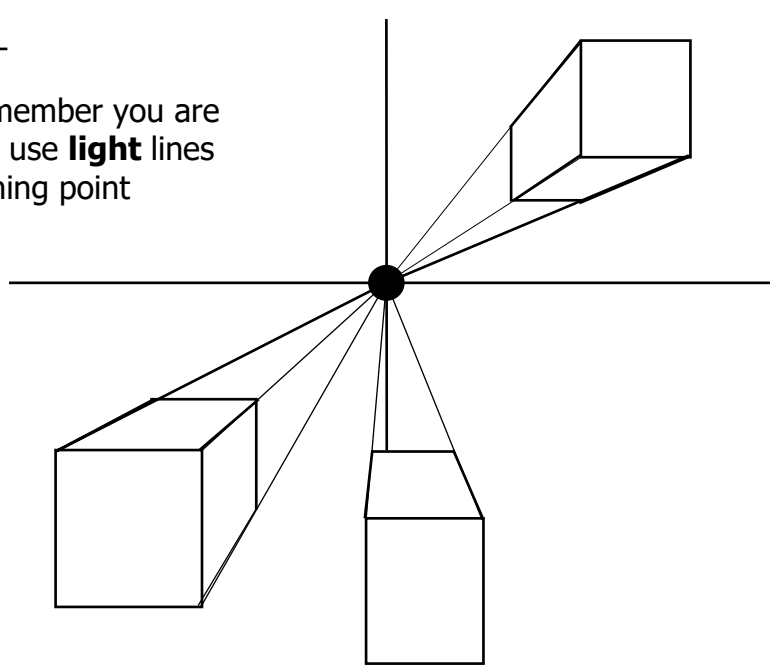
One Point Perspective



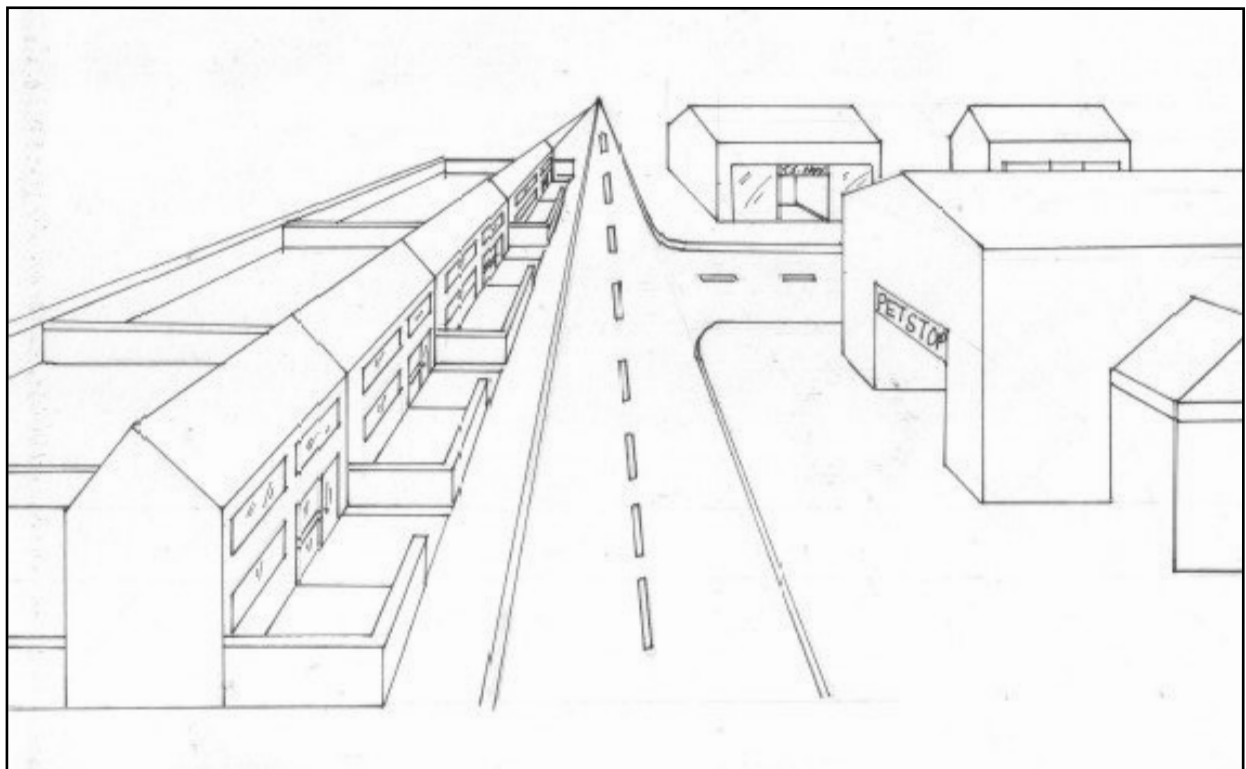
Drawing in **perspective** gives the illusion of objects that are near to you looking bigger and those that are further away looking smaller.

Follow the instructions below in order to **sketch** one point perspective boxes.

1. Divide your page into four.
2. Mark the Vanishing Point
3. Draw the front of the square first, remember you are **constructing** the drawing, therefore use **light** lines
4. Project the corners back to the vanishing point
5. **Outline** your completed drawing.



After **constructing** the boxes successfully, you can now try something more complex such as a high street. Your teacher will demonstrate how to do this. When confident you can **personalise** your street with other objects such as lamp posts, paths and garden objects etc.



Green



Amber



Red

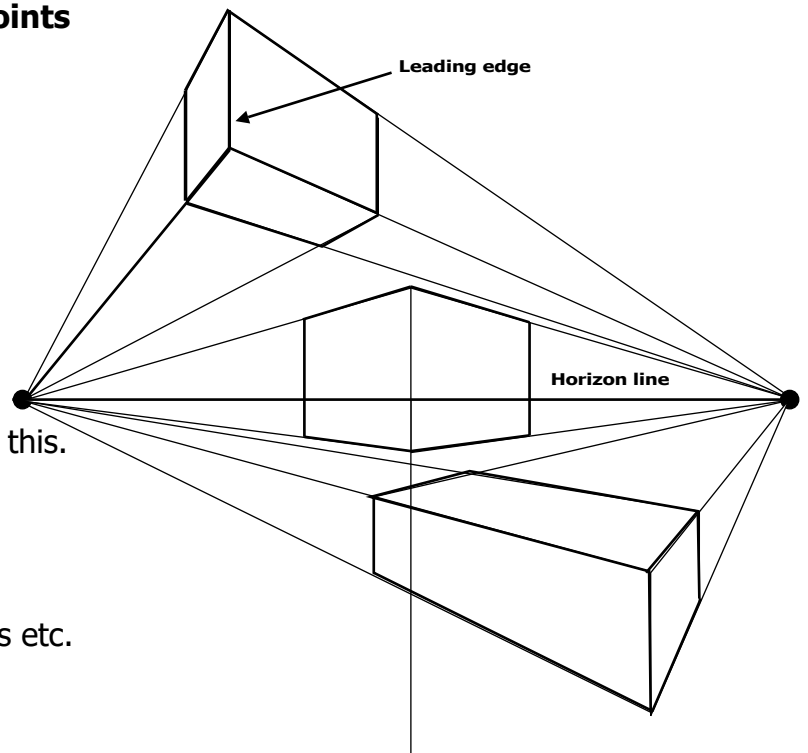


Two Point Perspective



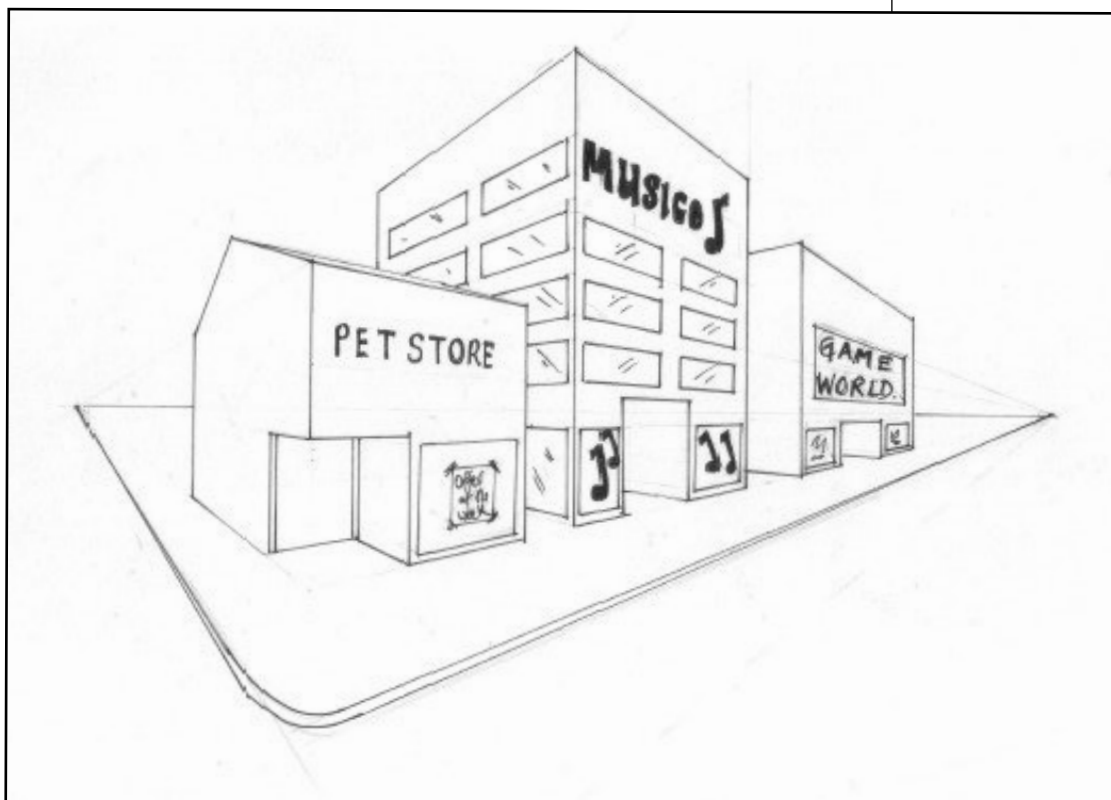
Two point perspective differs from **one point**, in that **2 vanishing points** are used. A **leading edge** is also drawn to give the exact **height** of your drawing. All other sizes are **estimated**.

1. Draw in a **horizon line** (eye level) in the centre of the page.
2. Mark on **vanishing points** (vp1 & vp2) ●
3. Sketch the **leading edge** of the box
4. Project the upper and lower ends of the **leading edge** to the **vanishing points**
5. Estimate the **length** and **breadths** of the two sides and place these on vertically
6. Project these to the **vanishing points**
7. **Outline** when complete



After **constructing** the boxes successfully, you can now try something more **complex** such as a high street where you could buy a bird feeder. Your teacher will demonstrate how to do this.

When confident you can **personalise** your street with other objects such as lamp posts, shop graphics, road markings etc.



Green



Amber

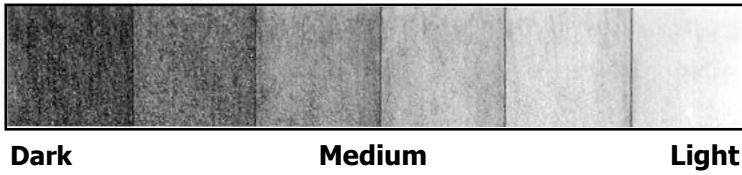


Red



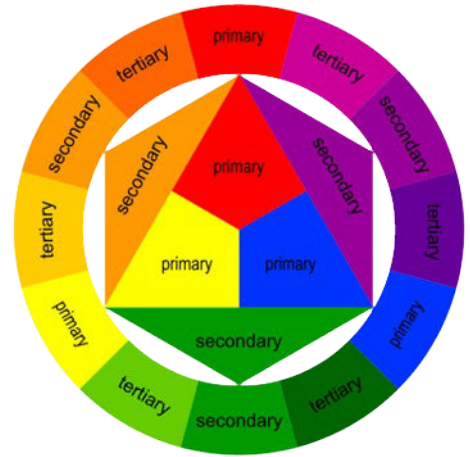
Rendering

In Graphic Communication we **add colour** to show the **effects of light, shade and texture**. We call this **rendering**. The **tonal scale** is a useful tool to give drawings a **realistic** appearance. The tonal scale represents different **degrees** of **light** and **shade** falling onto a solid object.



The Colour Wheel

There are three types of colour on the colour wheel; Primary, Secondary, Tertiary.



Task

Trace the words below and use the correct colours to **render** them.

Primary

Secondary

Tertiary

Green



Amber



Red



S1 Manual Graphics Course

SELF ASSESSMENT SHEET

Name

Class

How successful were you in each of the following lessons?

		Green	Amber	Red	Comment
1.	Measuring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Dimensioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Oblique Sketching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	One point perspective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Two point perspective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	Tonal scale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Colour Wheel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>