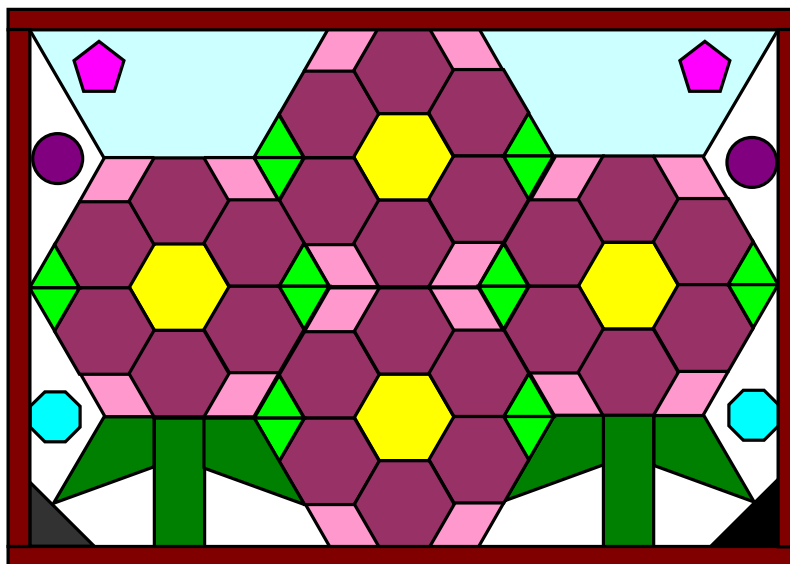


# Geometric Design

## Assignment

### Task A

The diagram shows the geometric design on a tray.



Use geometrical terms and ideas to describe the design.

Your description should include:

- the names of shapes you can see in the design.
- the use of terms such as parallel, perpendicular, right-angle etc
- a description of the symmetry in the shapes, the whole design and parts of it.

### Task B

Find a picture of a geometric design from a magazine or the internet.

The design could have been used in a tiled floor, a stained glass window, textiles, the front of a building or a variety of other real situations.

Describe the design using geometrical terms and ideas.

### Task C

Use a pencil, ruler and compasses to create a geometric design.

(N.B. Do not colour in.)

Use at least two constructions from those listed below:

- a regular hexagon inscribed in a circle
- an equilateral triangle inscribed in a circle.
- a line perpendicular to a given line, through a given point
- the mid-point of a line segment
- the perpendicular bisector of a line segment

Leave sufficient detail of your construction work so that it can be assessed.



<b>Teacher Notes</b>
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**Unit** Foundation Level, Working in 2 and 3 dimensions

**Skills used in this activity**

- describing designs using geometrical terms and ideas
- carrying out constructions using ruler and compass

**Preparation**

Students will need:

- copy of the assignment
- a picture of a geometric design from a magazine or the internet
- compasses, rulers, pencils (etc.) for construction work

**Notes**

You could use all three tasks or just one or two of them.

Tasks A and B should provide the evidence for portfolio requirement 4 (given below).

Task C is designed to provide evidence for portfolio requirement 5.

Tasks B and C give more opportunities for students to work independently by allowing them to select and create their own designs.

What you need to produce	You must
<p><b>4</b></p> <p>A written description of a 2- dimensional situation, using geometrical terms and ideas, that includes</p> <ul style="list-style-type: none"> <li>• the use of terms such as parallel and perpendicular</li> <li>• the classification of shapes</li> <li>• symmetry</li> <li>• if appropriate, the classification of angles (acute, right-angle, obtuse, reflex)</li> </ul>	<ul style="list-style-type: none"> <li>• identify and use on your own the appropriate and correct geometrical terms</li> </ul>
<p><b>5</b></p> <p>Two constructions for which you have used different techniques.</p>	<ul style="list-style-type: none"> <li>• leave sufficient detail of your construction work so that it can be assessed</li> </ul>

A list of the geometrical terms and ideas that students should have met before attempting this assignment is given below:

- parallel, perpendicular, right angle, bisect, mid-point, line segment, line
- quadrilaterals including rectangle, square, parallelogram, rhombus, trapezium, kite
- triangles including obtuse angled, acute angled, equilateral, isosceles, right-angled
- regular polygon, pentagon, hexagon, octagon
- lines of symmetry, rotational symmetry (including the idea of centre and order)

They will also need to have learnt how to carry out the constructions listed in the assignment.

