

Playing with Pattern: Unit Overview

The resources have been designed to be used in a flexible way in order to meet your individual requirements:

- As a stand-alone as a unit of maths work
- As art workshops at the William Morris Gallery which can also be adapted for use in the classroom.
- As a combined topic unit.

The maths lessons are ready to use, students will examine the relationships between maths concepts and pattern design. Each lesson plan is accompanied by a vibrant PowerPoint presentation, some lessons also have activity sheets.

The gallery workshop resources cover three full days, in which students can make their own printing blocks, learn how to combine maths with pattern design to create their own designs for cushion covers. The plans can be adapted for use in the classroom. A video created for the William Morris Gallery by artist Anna Alcock, demonstrating how to print using craft foam, is available on the William Morris Gallery Facebook page – see ‘useful links’ section on this site.

One potential delivery structure is outlined here and mapped to National Curriculum Links for Key Stage 2.

Session	Learning Intention/ outcome	National Curriculum links	Location
1	Introduction to the Unit	Art and Design ♣ learn about great artists in history and use them for inspiration in own art.	School
2	Maths Lesson 1: Coordinates	Maths ♣ describe positions on the full coordinate grid (all four quadrants) ♣ describe positions on a 2-D grid as coordinates in the first quadrant ♣ learn about great artists in history and use them for inspiration in own art. ♣ improve their mastery of art and design techniques.	School
3	Art Day 1: Explore pattern and block design	Art and Design ♣ learn about great artists in history and use them for inspiration in own art. ♣ improve their mastery of art and design techniques.	William Morris Gallery

4	Maths Lesson 2: Coordinates in four quadrants	<p>Maths</p> <ul style="list-style-type: none"> ♣ describe positions on the full coordinate grid (all four quadrants) ♣ describe positions on a 2-D grid as coordinates in the first quadrant ♣ learn about great artists in history and use them for inspiration in own art. ♣ improve their mastery of art and design techniques. 	School
5	Maths Lesson 3: Reflection on a vertical mirror line.	<p>Maths</p> <ul style="list-style-type: none"> ♣ identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed ♣ describe positions on a 2-D grid as coordinates in the first quadrant ♣ complete a simple symmetric figure with respect to a specific line of symmetry. ♣ identify lines of symmetry in 2-D shapes presented in different orientations ♣ learn about great artists in history and use them for inspiration in own art. ♣ improve their mastery of art and design techniques. 	School
6	Art Day 2: Understanding aspects of design processes and printing	<p>Art and Design</p> <ul style="list-style-type: none"> ♣ improve their mastery of art and design techniques. ♣ improve their mastery of art and design techniques. 	William Morris Gallery
7	Maths Lesson 4: Reflection on horizontal and diagonal mirror lines	<ul style="list-style-type: none"> ♣ describe positions on the full coordinate grid (all four quadrants) ♣ identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed ♣ describe positions on a 2-D grid as coordinates in the first quadrant ♣ complete a simple symmetric figure with respect to a specific line of symmetry. ♣ identify lines of symmetry in 2-D shapes presented in different orientations ♣ learn about great artists in history and use them for inspiration in own art. ♣ improve their mastery of art and design techniques. 	School

8	Maths Lesson 5: Translation across all four quadrants	<ul style="list-style-type: none"> ♣ draw and translate simple shapes on the coordinate plane, and reflect them in the axes. ♣ identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed ♣ describe movements between positions as translations of a given unit to the left/right and up/down ♣ describe positions on a 2-D grid as coordinates in the first quadrant ♣ learn about great artists in history and use them for inspiration in own art. ♣ improve their mastery of art and design techniques. 	School
9	Maths Lesson 6: Area	<ul style="list-style-type: none"> ♣ recall multiplication and division facts for multiplication tables up to 12×12 ♣ find the area of rectilinear shapes by counting squares ♣ calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and ♣ estimate the area of irregular shapes ♣ recognise when it is possible to use formulae for area ♣ learn about great artists in history and use them for inspiration in own art. ♣ improve their mastery of art and design techniques. 	School
10	Art Day 3: Creating a design template and planning design	<p>Art and Design</p> <ul style="list-style-type: none"> ♣ learn about great artists in history and use them for inspiration in own art. ♣ improve their mastery of art and design. 	School or William Morris Gallery
11	Art Day 4: Practical printing session of final piece	<p>Art and Design</p> <ul style="list-style-type: none"> ♣ learn about great artists in history and use them for inspiration in own art. ♣ improve their mastery of art and design techniques. 	William Morris Gallery