# William Morris Maths Planning   Subject topic: Using art to inspire maths: coordinates, position and direction.

## School based maths lessons

| Subject: Maths/ Art | | Class: | Day: |
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**National Curriculum Links:**
- 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.

**Session/ Title : 7**
**Translation**

| Learning Intention | Success Criteria | Key Vocabulary | Teacher & Pupil Activity<br>(Indicate the groups that will be supported and by whom) | Plenary | Resources | Differentiation |
|---|---|---|---|---|---|---|
| To identify angles in a full turn.<br><br>. | • I know that $90^0$ is a quarter turn.<br>• I know that $180^0$ is a half a turn.<br>• I know that $270^0$ is a three-quarter turn.<br>• I know that $360^0$ is a full turn.<br>• I know that $90^0$ is a right angle.<br>• I can identify acute, obtuse and reflex angles. | Rotate<br>Rotation<br>Intersecting<br>Degrees<br>Right angle<br>Acute<br>Obtuse<br>Reflex<br><br>**Key Questions**<br>What is the turn?<br>How many degrees has it turned?<br>What is the angle? | **Introduction:**<br>Ask children what they know about angles? Angles are turns that measure the space between two intersecting lines that are measured in degrees.<br>**Activity 1:**<br>Children count in 90's on a circle to help visualise 90º, 180º, 270º and 360º. Ask the children to stand facing the same direction. Call out different angles and ask the children to turn in the directions.<br>**Activity 2:**<br>Show the children a protractor. If possible give each child a protractor so that they can see it in detail. Let the children familiarise themselves with the aspects (inside and outside measurements etc).<br>Explain that angles have particular names (acute, obtuse, right-angle and reflex.<br>**Activity 3:** Show the children the William Morris design which they used in the translation lesson. More information about this artwork can be found at<br>https://www.wmgallery.org.uk/media/_file/learning/inspiration_from_nature_teachers_notes.pdf<br><br>Can they see any rotated objects? Provide the children with a | Children work in pairs with a dice and the grid with leaves. The first person rolls the dice while their partner is turned away or has their eyes shut<br>1=acute<br>2=right angle<br>3=obtuse<br>4=reflex<br>5=360º<br>6=pupils choice | - PowerPoint<br>- 'Rotation grid' resource sheet | |

WILLIAM MORRIS GALLERY

Waltham Forest

| | | | grid and several copies of the same image (i.e. leaves and flowers) to cut out. The children could use their own images provided they are able to recreate the same dimensions. The children should cut out these images and stick them down on different angles on the grid explaining the rotation that has taken place (i.e. the leaf has been rotated 90º). | Once they have moved the shape into the position the partner guesses what the angle is. | | |
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WILLIAM MORRIS GALLERY

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