

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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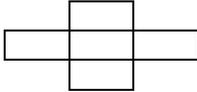
National Curriculum Links:

- ♣ 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.

Session/ Title : 6 Translation

Learning Intention	Success Criteria	Key Vocabulary	Teacher & Pupil Activity (Indicate the groups that will be supported and by whom)	Plenary	Resources	Differentiation
To translate a shape.	I know that shapes remain the same size when translated. I can follow directions (up, down, left, right) I can count the squares needed to move. I can move a shape accurately. I can keep the dimensions of the shape the same when	Translate Vertical Horizontal Diagonal Quadrant Dimensions	Introduction: Show the children William Morris images. What do they notice about the images? What repeated patterns can they see? Ask them to think as mathematicians, what do they notice? Look at the repeated patterns in William Morris patterns, this was because he used printing techniques to create his images and used a printing block to repeatedly use an image in his overall design. In mathematical terms, a shape that moves to another position, but the dimensions remain the same is called translation.	Recap what they children have learnt from today and how this fits within the unit of work they have	- PowerPoint - 'Test-base questions' resource sheet - 'Translation grid' resource sheet	SEN: Give the children basic shapes (i.e. squares) to translate on the grid. EAL: Model the correct sentence structure.

	translated.	Key Questions	<p>Activity 1: Recap the four quadrants and look at the flower in one of William Morris' designs. Encourage children to use mathematical language to describe the translation, i.e. the flower has translated from quadrant one, left, into quadrant two.</p> <p>Activity 2: Show the children how to translate basic shapes, encourage them to use one focal point when they are translating more complex shapes (e.g. the purple square in the flower) and then recreating the whole design afterwards.</p> <p>Follow up: Give the children a series of test-based questions about translation addressing any misconceptions as they answer the questions.</p> <p>Activity 3: Show the children the William Morris design. More information about this artwork can be found at https://www.wmgallery.org.uk/media/file/learning/inspiration_from_nature_teachers_notes.pdf</p> <p>Can they see any translated objects? Provide the children with a grid and several copies of the same image (i.e. birds 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 in different places on the grid explaining the translation that has taken place (i.e. the bird has translated one square right and two squares up). This gives the children a chance to use the correct mathematical language and see how repeated images build up a bigger design.</p>	done so far.		<p>GDS: Ask children to create some of their own images, thinking specifically about keeping the same dimensions, this may require the images to be made using squares.</p> 
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