














# Position and Direction: Tile Turns

<b>Aim:</b> Describe position, direction and movement, including whole, half, quarter and three-quarter turns.  I can move a quarter, half turn, three-quarter turn and whole turn.	<b>Success Criteria:</b> I can turn in a full circle.  I can move a quarter turn.  I can move a half turn.  I can move a three-quarter turn.  I can complete patterns using turns.	<b>Resources:</b> <a href="#">Lesson Pack</a>  Mini whiteboards and pens - class set  Scissors and glue  Sticky notes
	<b>Key/New Words:</b> Quarter turn, half turn, three-quarter turn, whole turn, full turn, pattern, sequence, position, left, right, above, below.	<b>Preparation:</b> Differentiated <a href="#">Tile Turns Activity Sheet</a> - 1 per child  <a href="#">Tiling Together Cards</a> - 1 per pair, laminated and cut out

**Prior Learning:** It will be helpful if the children have had plenty of experience of making and completing patterns. For example, threading beads to make a patterned necklace; using stamps to make a repeated wrapping paper design; cutting strips of paper to make a stripy zebra picture and gluing coloured squares to make a simple chequered tessellation.

## Learning Sequence

	<b>Left and Right Mice:</b> Ask the children to watch out for the mice about to scurry across the screen on the <a href="#">Lesson Presentation</a> . They must work out the direction each mouse is travelling to. The children can call out, show their answers by holding up their left or right hand or write 'L' or 'R' on their whiteboard.				
	<b>Listen and Move:</b> Ask the children to follow your instructions to move, reading from the <a href="#">Lesson Presentation</a> . You may wish to move in the children's direction (your right is their left) in order to help everyone move correctly. <i>Can the children follow your instructions to move?</i>				
	<b>Tile Explore:</b> On the <a href="#">Lesson Presentation</a> , show the children the tiles and explain that they can be moved around in a full turn and appear in the same position as before. However, if the tile is moved half a turn then the tile appears upside down. In the same way, demonstrate the tiles making quarter and three-quarter turns. Ask children to watch the tiles on the Lesson Presentation closely, then shout out what kind of turn they have done. Tell the children that they need to wait for the speech bubble to appear before shouting out, so they know the tile has stopped turning.				
	<b>Tile Turns:</b> Discuss and demonstrate how the tile designs can be turned around to make different patterns. Look together at the tiles on the Lesson Presentation and discuss how each tile is turning to create the patterns. Can the children predict the kind of turns they will see next, before they happen? Provide each child with the differentiated <a href="#">Tile Turns Activity Sheets</a> . Ask the children to complete the tile patterns using quarter and half turns. Encourage the children to first position each tile before gluing so that the completed pattern can be checked and easily altered if necessary. <i>Can the children complete the patterns making quarter, half and three quarter turns?</i>				
	Decide if these children require their tiles to be cut out by an adult beforehand.		Ask the children to describe to a partner the turns they are making as a strategy for checking their work.		Ask the children to describe and record the patterns in words. For example, <i>half a turn, quarter turn, half a turn, quarter turn</i> . Ask the children to draw their own tile patterns using quarter and half turns.
	<b>Tiling Together:</b> 'Hand out the 'Tiling Together Cards', one per child and ask them to work in small groups to make a pattern with their set of cards. Go round the groups, asking the children to explain what they did. Ask them questions, such as 'What turn did you make to get from this card to the next?' How many cards were turned a quarter turn?' etc. <i>Can the children describe the turns? Can the children offer alternate patterns using a different sequence of turns?</i>				

## Masterit

**Tileit:** Provide children with some small mosaic tiles in various colours and designs to explore their own patterns and turns. Ask parents to donate any spare tiles they may have at home or ask a local tile shop to loan out any surplus tiles they may have stored as samples. Check there are no sharp edges and provide the children with gloves for protection.

**Bakeit:** Make some square-shaped biscuits and ask the children to decorate them following a particular design. When the biscuits have cooled, ask each child to place their biscuit on a tray in an agreed position to make an edible patchwork pattern.

**Exploreit:** Ask the children to use two different tile designs from the [Tiling Together Cards](#) to create the most interesting pattern possible. Ask them to describe the turns used in their arrangement.