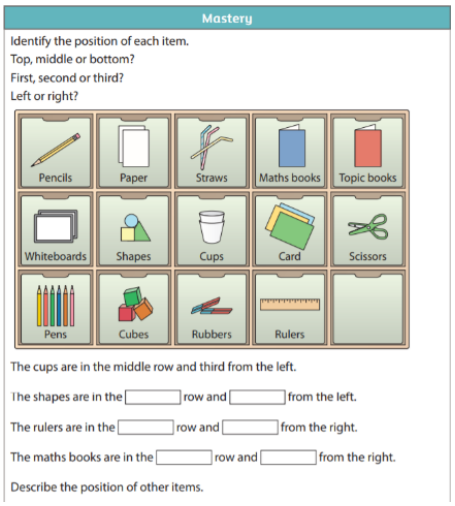
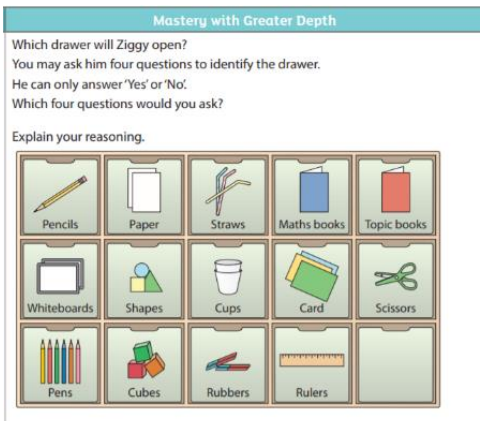
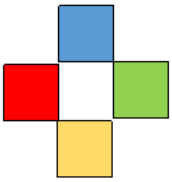
Planning Overview
Year 1 Geometry Position and Direction

Describe position, direction and movement, including whole, half, quarter and three-quarter turns

	Teaching and Learning
Describe position (above, below, in front of, behind, in between, next to, inside, outside etc)	Use a toy and a box to model vocab for common prepositions of place. Ask children to place the toy in specific places. Extend to include a chair and a cushion. Children to go on to give instructions to each other. Give children photos (2D representation) of a set of objects in a certain arrangement – can one child describe the arrangement in the photo? Can the other children recreate it following their description? Play barrier games that link to work on 2D and 3D shapes if appropriate e.g. using multilink cubes 1 child creates a compound shape and describes it to another child as they build Put the green cube on top of the yellow cube. Put a blue cube to the right of the yellow cube etc. Could extend to include a compare bear between the yellow and green cube or behind the wall/in front of the wall Use 2 packs of matching picture cards (maybe linked to topic). Lay cards from set 1 out in an array. Children draw a card from the second pack and say where the matching card is in relation to one of the other cards.  

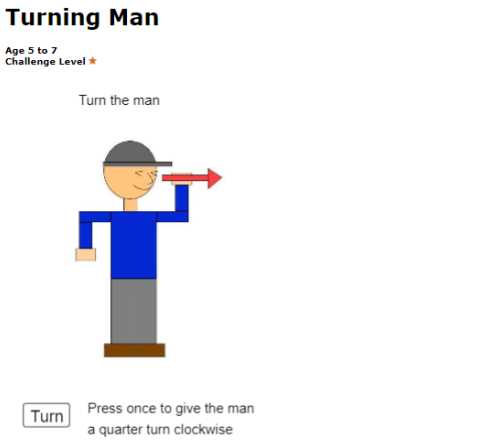
Describe direction and movement without turns (forwards, backwards, sideways, left, right, up, down)	Follow instructions to move yourself forwards, backwards and sideways left and right through a maze in the classroom or chalked outside – direct a friend. Colour in a route following given directions on a grid. Write directions to match a shaded route. Make treasure maps and write directions to the treasure. Play treasure hunt game on a 9x9 grid with a few items of treasure on it. Start in centre square. Roll dice and draw a direction card (forwards, backwards, left, right). Move as directed. If you land on treasure you win it. If you go off the edge go back to start. If the treasure is 5 steps away and you can move horizontally or vertically (not diagonally), where could it be? Could put a counter on your guess then get a second clue from there i.e. now it is 2 steps away – start to eliminate possibilities until you are sure where it is
Describe direction and movement with turns (forwards, backwards, turn left, turn right, up, down)	Follow instructions to move yourself forwards and backwards and **turn** left and right before moving forwards again to move in that direction. Use a programmable toy like beebot to move forwards, backwards left and right through a maze following instructions. Link to coding activities in Computing Look at given start and end positions. What route might the beebot have taken? Record the route use directional language Arrange numbers 1-12 as a clock face and direct a beebot or similar to go to different numbers
Describe turns (whole, half quarter and three quarter turns)	Children should respond to instructions to turn themselves to the right or the left. Start with a whole turn so you end up back at the beginning. Extend to turn half-way round and a second half turn back to the beginning. Finally turn 1 quarter at a time.  BBC Hip Hop Granny is a fun way to practise. https://www.bbc.co.uk/teach/supermovers/ks1-maths-position-&-direction/zhh9scw



Progress from children turning themselves to turning a character in the middle of a grid like this. Which colour will the character be facing after a quarter turn?

Finally move onto rotating flat objects e.g. a numicon plate or an arrow before and after a turn. Recognise how far the shape has turned – quarter turn, half turn or three-quarter turn?

NRICH – Turning man interactivity is a good way to develop the idea of counting quarter turns.



Draw a shape after a given turn – quarter turn, half turn, three-quarter turn.

Can children work backwards and identify the starting point if they know which turn a shape has gone through e.g. What was the starting point for this numicon plate if it has done a half turn and ended up in this position?

Play 'Simon Says' with full range of moves e.g. 'Make a half turn to the right', 'Move 3 steps backwards', 'Take 2 steps to the side', 'Make a whole turn'