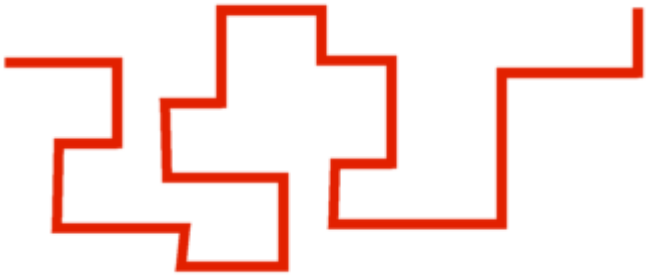
Robot on a Line

You now have to direct a robot along a path, telling them which way to turn when they come to corners. This activity helps you to understand the difference between your right side and someone else's right side.

Step 1. Follow the robot

Your helper will place a length a string on the floor which has several right and left turns. **Start with a string with about 10 turns**. The one shown below has 21 turns which may be a too difficult to begin.



Now your helper will walk along the line made by the string. You have to pretend that your helper is a robot walking along a track but only you can control it, so you will need to tell the robot which way to turn when it gets to each corner. If you have not given the robot its instructions by the time it gets to a corner, or if you give it the wrong instruction, so it turns the wrong way at a corner, the robot comes off the track and it will have to start again. You should stand behind your robot as it walks along the string and tell it which way to turn just before it gets to each corner.

Your goal is to get the robot from one end of the track to other without giving any incorrect instructions.

Step 2. Direct the robot from the start of the track

Your helper (your robot) will again walk along the line made by the string but now you will stay at the beginning of the line and you will not follow the robot. Tell the robot which way to turn just as it gets to each corner. You should not turn your body to help you make the decision to tell the robot to turn left or right at each corner. Try to imagine that you are facing the same way as the robot, so you are in the robots shoes, as it about to make each turn. Again, if you don't

give your instruction in time, or you give the wrong instruction and the robot comes off the track, it has to start again.

Your goal is to get the robot from one end of the track to other without giving any incorrect instructions.

Step 3. Direct the robot from the end of the track

Now you stand at the end of the track and give your robot his instructions to turn at each corner as he moves along the track.

Your goal is to get the robot from one end of the track to other without giving any incorrect instructions.

Step 4. Direct the robot from a corner of the room

Now you stand in a corner of the room and give your robot his instructions to turn at each corner as he moves along the track.

Your goal is to get the robot from one end of the track to other without giving any incorrect instructions.

Step 5. Speedy robot

Now the robot wants to go faster, so you have less time to decide which way it will turn and to give it the correct instructions at each corner. You should stand in a corner of the room to give it your instructions. If the robot does not get his instructions in time he will come off the track and will have to start again.

Your goal is to get the robot from one end of the track to other without giving any incorrect instructions.

Step 6. Memory robot

The robot now needs several instructions before it starts. It will need to know each successive 3 turns in advance. You should again stand in a corner of the room to give your instructions. So for the path above, before the robot starts, you will need to say '**right, then right**, **then left**'. When it has turned the third

corner, give it instructions for the next 3 corners in advance and so on for each successive 3 corners until it gets to the end of the track.

Your goal is to get the robot from one end of the track to other without giving any incorrect instructions.

Step 7. Speedy, memory robot

The robot now wants to go faster and it needs 3 instructions in advance. Try to keep it on the track as you give your instructions from the corner of the room.

Your goal is to get the robot from one end of the track to other without giving any incorrect instructions.

Step 8. More turns

Now the robot wants to go further, so it wants to walk on a longer path with more turns. Your helper will now make a longer path, like the one shown above, with about 20 turns. Repeat steps 4, 5, 6 and 7 with the longer path, always directing your robot from the corner of the room.

Your goal is to get the robot to the end of the path without giving any incorrect instructions.