



Objectives:

- Pupils will learn how to enter basic commands to make it move or turn in different directions.
- Pupils learn how to enter basic commands to make it draw lines of different length.
- Revise term like clockwise and anti-clockwise
- Learn how to use a ruler to measure lines in cm.

Resources:

- IWB
 - <https://www.studyladder.com/resources/activity/fullscreen?id=29135>
 - <https://www.studyladder.com/play/activity-new/id/28109>
 - <https://www.studyladder.com/play/activity-new/id/21613>
- A3 sheets
- Pro-Bots
- Pens
- Pro-Bot Worksheets

Lesson Note:

Introduce the topic by giving them a real-life situation where measuring the length of something . Ask pupils to give further examples.

Ask pupils to name different measuring tools.

Discuss with pupils the units of measurement used for length.

Show pupils how to use the ruler . (Study ladder video/ IWB)



Introducing the Pro-Bot:

Discuss the main features of programmable floor turtles with the children:

- They only do what they are instructed to (follow commands exactly as they are given).
- Compare with wider-world technology devices which need to follow instructions eg remote-sensing devices such as a Mars rover, bomb disposal devices and medical equipment.

Let pupils experiment with the Pro-Bot to make it move and turn in different directions.

Show pupils how to insert a pen into the device to enable it to draw a trail as it moves along a sheet of paper.

In groups pupils work out the 9 tasks in the worksheets.



Pro-Bot®



1

Press the forward button to draw a straight line.

Estimate the length of this line: _____

Measure the line with your ruler: _____

2

Programme the Pro-Bot to draw a line of 10cm.

In the space below draw the commands you are going to give to the Pro-Bot

--	--	--	--	--	--

Check the length of the line with your ruler.

3

Programme the Pro-Bot to draw a line of 15cm.

In the space below draw the commands you are going to give to the Pro-Bot


--	--	--	--	--	--

Check the length of the line with your ruler.




Pro-Bot®

4 Place the Pro-Bot in this position:
 Draw the button you are going to press to turn the Pro-Bot to the right.




5 If you place the Pro-Bot in this position and you input the following commands:



2

5




the Pro-Bot will draw a :


Vertical line.	
Horizontal line.	

(Tick ✓ the correct answer)

6 If you place the Pro-Bot in this position and you press this command:

the Pro-Bot will make:





a clockwise turn.	
an anti -Clockwise turn.	

(Tick ✓ the correct answer)



7

Place the Pro-Bot in this position:

If you input the following commands on the Pro-Bot, what will it draw?



- ↑ 4
- ↶
- ↑ 4



8

Place the Pro-Bot in this position:

If you input the following commands on the Pro-Bot, what will it draw?



- ↑ 1 0
- ↶
- ↑ 1 0
- ↶
- ↑ 1 0





9

Place the Pro-Bot in this position:

If you input the following commands on the Pro-Bot, what will it draw?



- ↑ 6
- ↻
- ↑ 6
- ↻
- ↑ 6



10

Place the Pro-Bot in this position:

If you input the following commands on the Pro-Bot, what will it draw?



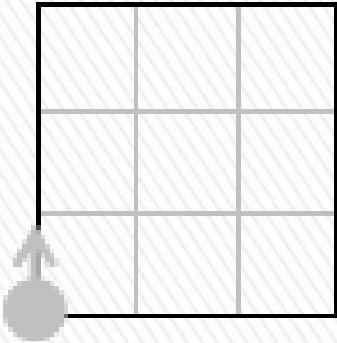
- ↑ 6
- ↻
- ↑ 6
- ↻
- ↑ 6
- ↻
- ↑ 6





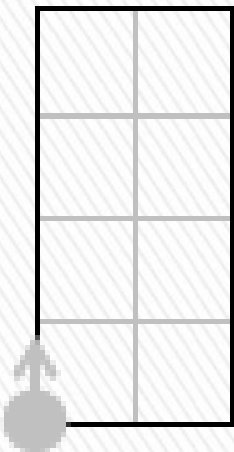
11

Look at the shape and then enter the commands needed to draw it.



12

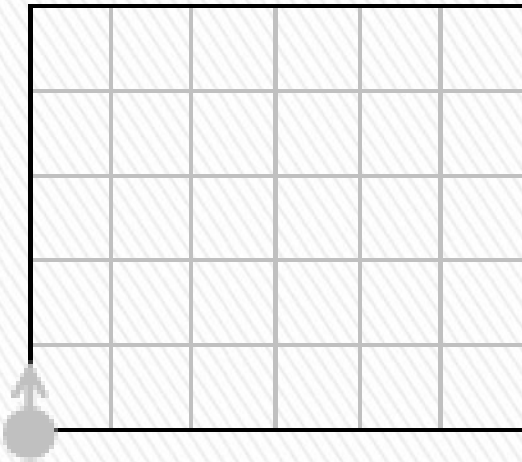
Look at the shape and then enter the commands needed to draw it.





13

Look at the shape and then enter the commands needed to draw it.



14

Can you programme the Pro-Bot to draw a square with sides 10 cm?