Question: How does the robot move?
Programming A- Moving a robot

National Curriculum Link:

-Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
-Create and debug simple programs
-Use logical reasoning to predict the behaviour of simple programs
-Recognise common uses of information technology beyond school

International Baccalaureate Learner Profile Link:

Knowledgeable.
What do I know already?
I can share my knowledge with others.
I apply what I know to new situations and opportunities.

Thinkers
How can I stretch myself by thinking deeply about new information?
How might thinking about thinking help me as a learner?

Prior Skills: Reception	New Skills: Year 1	Future Skills: Year 2
Understanding the World: Technology. <u>Early Learning Goal:</u> Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	To enact a given word. To recall words that can be enacted. To predict the outcome of a command on a device. To list which commands can be used on a given device. To explain what a given command does. To match a command to an outcome. To recognise how to run a command. To choose a series of words that can be enacted as a program. To choose a series of commands that can be run as a program.	To choose a series of words that can be enacted as a sequence. To explain what happens when we change the order of instructions. To choose a series of commands that can be run as a program. To trace a sequence to make a prediction. To test a prediction by running the sequence. To create and debug a program that I have written.

	To run a program on a device.	

Knowledge, Skills and Understanding AL: Algorithms PG: Programming To explore algorithms and sequencing of instructions. To read, follow and create a simple sequence algorithm. To give these instructions so that they can be executed by a robot with the aim of successfully reaching a destination. The children learn: to create a simple program and correct mistakes (debug). The children learn: about making predictions when using technology. E.g. They will be asked to predict what will happen for a short sequence of instructions in a program.
Challenge

Resources: Hardware: iPads, Computers, Bee Bots. Teach computing website and plans.	**Websites or Apps:** Apps: Scratch Jr, Kodu. https://www.topmarks.co.uk/Search.aspx?q=crack%20the%20code (code games) https://www.bbc.co.uk/bitesize/topics/z3tbwmn (algorithms)
	Extended Writing Opportunities: Write a set of instructions for their partner to solve (treasure hunt).
Vocabulary: Command, device, sequence, forwards, backwards, right, left, turn, debug, programs, solutions, algorithms.	**Numeracy skills:** Data collecting: The children will be collecting information using a tally system and then sharing the information in different forms, including bar charts and pie charts.
Suggested Quality Texts: See selection in library Use information texts related to insects and mini-beasts. This will enable children to extend their understanding in the topic.	**WOW Experience:** Zoo lab to come in to show the children a number of insects that they can then base their video on.
Cross Curricular Links: Maths- use maths when building and making their one robot mat. Art- The use of colour and straight lines to create a work of art on mini beasts. DT- Make their own puppet/toy using mini beasts for their video.	