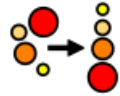








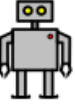
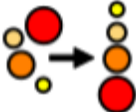



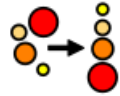
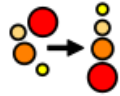





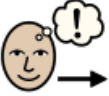






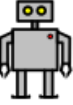
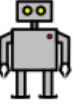


Year 2 Computing – Robot algorithms

Vocabulary			Knowledge	
Algorithm	A set of clear and precise instructions		<b>Robot algorithms</b>	
Sequence	The order in which instructions are arranged		Programming is when we make a set of instructions for computers to follow.	
Instruction	A single command or action		<b>Robots</b> are one type of machine that can follow <b>programs</b> – they follow what we <b>instruct</b> them to do.	
Debug	To find and fix errors		We use <b>algorithms</b> to help robots to do things that we want them to.	
Predict	To guess what will happen next		If the algorithm is not working properly, then we can <b>debug</b> it. Debugging can help to correct algorithms and programs.	
Outcome	The result after following a set of instructions		<b>Instructions</b>	
Program	A collection of instructions that a computer follows to perform a task		<b>Algorithms</b> are precise sets of instructions, that a computer can turn into a code.	
Design	Planning and creating a model before building it		We can program our floor robots to complete tasks.	
Test	Trying out a program to see if it works as expected		When we press the buttons of our floor robot, we are creating a program for it follow. The program is how the algorithm is run as code on the robot.	
Robot	Machines that we can program to do human jobs		It is important that our instructions to the floor robot are clear.	
			If the <b>sequence</b> of instructions is in the wrong order, the floor robot will not follow the <b>design</b> as planned.	
			<b>Chunking and debugging</b>	
			With larger programs, we can break the task into chunks and create algorithms for each chunk.	
			<b>Predicting and testing</b>	
			It is important to <b>predict</b> what a robot will do when given an instruction. We need to <b>test</b> the program to see if the prediction is correct.	
			<b>Testing</b> allows us to see how the program works.	

Quizzing		Quiz at home	
Ask your partner the questions below. Can they find the correct answer on the right-hand side?		Ask your adult to look at the KO.	
What is a visual plan of a robot's movement called?	Outcome	Quiz them using the vocabulary and knowledge section or the quiz questions. <ul style="list-style-type: none"> <li>• Can they beat your score?</li> <li>• Can they score more than 5? 10?</li> </ul> 	
What is it called when we guess what will happen next?	Debugging		
What do we call the result after following instructions?	Design		
What do we call a set of precise ordered instructions?	Predict		
What is the process of finding and fixing errors?	Algorithm		
BIG Questions		Beat the Adult	
<ol style="list-style-type: none"> <li>How is an algorithm like giving someone step-by-step instructions?</li> <li>What might happen if we give a robot the wrong sequence of instructions?</li> <li>How can designing a plan before programming help the robot?</li> <li>Why is it important to try, test and improve our instructions?</li> </ol>		Your teacher can give <b>10 facts</b> in <b>3 minutes</b> about this topic. How many can you give to your partner? 	
Fill in the gaps	Creative tasks	Word search – Can you find all the words?	
<ol style="list-style-type: none"> <li>A single command is called an _____</li> <li>The result after following a set of instructions is called a _____</li> <li>To guess what will happen next is to _____ what the robot will do.</li> </ol> <p>predict      instruction      outcome</p>	<ol style="list-style-type: none"> <li>Hide a small object in the room. Write or draw instructions for someone to find it.</li> <li>Make cards for commands like <b>Forward, Turn Left, Turn Right, Pick Up</b>. Use them to “program” your robot.</li> <li>Write an algorithm for drawing a simple picture (e.g., “Draw a circle, then a triangle inside it”). Ask someone to follow your instructions exactly.</li> </ol>	I N S T R U C T I O N P Q H T E S T Q O R S W R A V V Z C D E B U G M E N I D E S I G N K W Q D O C X P V W K W Y I H I S E Q U E N C E V N J C E E A L G O R I T H M T O U T C O M E B N O N F	
		Algorithm Design Debug Instruction Outcome Predict Sequence Test	

Write the definition for each of the following words			Write the vocabulary word for each definition		
Vocabulary			Vocabulary		
Algorithm				A set of clear and precise instructions	
Sequence				The order in which instructions are arranged	
Instruction				A single command or action	
Debug				To find and fix errors	
Predict				To guess what will happen next	
Outcome				The result after following a set of instructions	
Program				A collection of instructions that a computer follows to perform a task	
Design				Planning and creating a model before building it	
Test				Trying out a program to see if it works as expected	
Robot				Machines that we can program to do human jobs	

# Enquiry

## Bee-bot hunt

Write down step-by-step instructions for the bee-bot to get to the owl.



Blank area for writing step-by-step instructions for the bee-bot to get to the owl.

Knowledge

**Robot algorithms**

is when we make a set of instructions for computers to follow.



**Robots** are one type of machine that can follow  - they follow what we  them to do.

We use  to help robots to do things that we want them to.

If the algorithm is not working properly, then we can  it. Debugging can help to correct algorithms and programs.

**Instructions**

**Algorithms** are precise sets of instructions, that a computer can turn into a

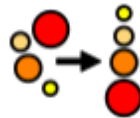


We can program our floor robots to complete tasks.

When we press the buttons of our floor robot, we are creating a  for it follow.

The program is how the algorithm is run as code on the robot.

It is important that our instructions to the floor robot are clear.



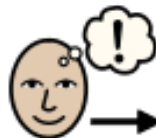
If the  of instructions is in the wrong order, the floor robot will not follow the  as planned.

**Chunking and debugging**

With larger programs, we can break the task into  and create algorithms for each chunk.

**Predicting and testing**

It is important to  what a robot will do when given an instruction. We need to  the program to see if the prediction is correct.



allows us to see how the program works.

Knowledge

**Robot algorithms**

**Instructions**

**Chunking and debugging**

**Predicting and testing**

