

Computing	Programming A – Robot Algorithms	Year 2	Spring 1
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Key Knowledge

To describe a series of instructions as a sequence	<ul style="list-style-type: none"> I can follow instructions given by someone else I can choose a series of words that can be acted out as a sequence I can give clear instructions
To explain what happens when we change the order of instructions	<ul style="list-style-type: none"> I can use the same instructions to create different algorithms I can use an algorithm to program a sequence on a floor robot I can show the difference in outcomes between two sequences that consist of the same instructions
To use logical reasoning to predict the outcome of a program	<ul style="list-style-type: none"> I can follow a sequence I can predict the outcome of a sequence I can compare my prediction to the program outcome
To explain that programming projects can have code and artwork	<ul style="list-style-type: none"> I can explain the choices that I made for my mat design I can identify different routes around my mat I can test my mat to make sure that it is usable
To design an algorithm	<ul style="list-style-type: none"> I can explain what my algorithm should achieve I can create an algorithm to meet my goal I can use my algorithm to create a program
To create and debug a program that I have written	<ul style="list-style-type: none"> I can test and debug each part of the program I can plan algorithms for different parts of a task I can put together the different parts of my program

Statutory requirements

- 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

Key vocabulary

Spelling	Definition
Algorithm	A precise set of ordered steps that can be followed by a human or a computer to achieve a task
Command	A single instruction that can be used in a program to control a computer
Sequence	A sequence is a series of events that must be performed in order to achieve a task
Program	A set of ordered commands that can be run by a computer to complete a task
Debugging	The process of finding and correcting errors in a program

Possible experiences

- Create your own instructions to direct a BeeBot by downloading the APP “BeeBot education”
- Create a treasure map of your house giving instructions to create an algorithm for someone to follow or use a remote control toy to follow your own instructions.
- Take coding outdoors! Follow the link for some unplugged activities to embed the key principles within creating algorithms. [5 Easy Unplugged Coding Activities You Can Do Outside \(teachyourkidscode.com\)](https://www.teachyourkidscode.com)

