

Sticky Learning for Computing

Class 2 (Year 2.3)

Programming A: Robot Algorithms (6 weeks)

Prior Learning: Before starting this Year 2 topic, you should have had some experience with creating short programs using floor robots and predicting the outcome of a simple program. This topic will further your understanding of algorithms and their implementation as programs on digital devices. You'll explore how the sequence of commands affects outcomes and use this knowledge, along with logical reasoning, to trace programs and predict outcomes.

• I can describe a series of instructions as a sequence.

AL

KS1-1, KS1-2, KS1-3, KS1-4

• I can explain what happens when we change the order of instructions.

AL, IT

KS1-1, KS1-2, KS1-3, KS1-4

• I can use logical reasoning to predict the outcome of a program.

AL, PG

KS1-1, KS1-2, KS1-3, KS1-4

• I can explain that programming objects can have code and artwork.

AL, DD, PG

KS1-1, KS1-2, KS1-3, KS1-4

• I can design an algorithm.

AL, DD

KS1-1, KS1-2, KS1-3, KS1-4

• I can create and debug a program that I have written.

AL, DD, PG

KS1-1, KS1-2, KS1-3, KS1-4

Key Vocabulary to learn:

- algorithm
- instructions
- sequence
- change
- order
- program
- design
- code
- sequence
- debug

Taxonomy:

AL Algorithms

CS Computing systems

CM Creating media

DI Data and information

DD Design and development

ET Effective use of tools

IT Impact of technology

NW Networks

PG Programming

SS Safety and security

National Curriculum: Key Stage 1:

KS1-1 Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions.

KS1-2 Create and debug simple programs

KS1-3 Use logical reasoning to predict the behaviour of simple programs

KS1-4 Use technology purposefully to create, organise, store, manipulate, and retrieve digital content.

KS1-5 Recognise common uses of information technology beyond school.

KS1-6 Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

DfE: Education in a Connected World:

SI Self Image and Identity.

OR Online Relationships.

OP Online Reputation.

OB Online Bullying.

MI Managing Online Information

HW Health, well-being and lifestyle.

PS Privacy and Security.

CO Copyright and ownership.