



Prior learning: In Year 1, children will have learnt to explore coding software and understand how to make simple predictions to decode programmes and begin to create their own.

Meet some brilliant computer scientists...



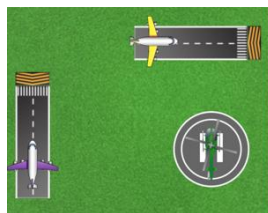
Charles Babbage was a 19th Century English inventor, mathematician and engineer. He invented the computer.



Ada Lovelace was an English mathematician who is known for work she did with Charles Babbage on his idea for a general purpose computer in the 1840s. She is considered to be the world's first computer programmer.

1. How do computer scientists create a sequence of commands?

We will learn about algorithms and how to create a sequence of commands to design an airport programme where planes take off (Purple Mash – 2Code Unit 2.1- lesson 1 - Algorithms)



 Brilliant computer scientists know what an algorithm is.

2. How do computer scientists create a program that uses collision detection?

We will learn how to plan and create an algorithm that includes collision detection using the fairy tale of The Princess and the Frog (Purple Mash – 2Code Unit 2.1- lesson 2 – Collision detection)



 Brilliant computer scientists know how to create algorithm that includes collision detection.

3. How do computer scientists design an algorithm that uses a timed sequence?

We will learn how to plan and create an algorithm that includes a timer. We will be magicians, making a rabbit disappear! (Purple Mash – 2Code Unit 2.1- lesson 3 – Using a Timer)



 Brilliant computer scientists know how to create an algorithm that uses a timed sequence.

4. How do computer scientists change the properties of an object?

We will learn how to modify the properties of an object by creating sequences of code for a snail race (Purple Mash – 2Code Unit 2.1- lesson 4 – Different object types)



 Brilliant computer scientists know how change the properties of an object in a sequence of code.

5. How do computer scientists create a computer program that includes a button object?

We will learn how buttons work in programming. We will learn to add and program different buttons to make an object perform an action e.g. 'When clicked – move duck' (Purple Mash – 2Code Unit 2.1- lesson 5 - Buttons)



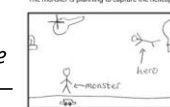
 Brilliant computer scientists can explain what a button does in their program.

6. How do computer scientists 'debug' simple programs?

We will be using the idea of 'smelly code' to sniff out the problems with the algorithm and fix them (Purple Mash – 2Code Unit 2.1- lesson 6 – Smelly code debugging)

Smelly Code 1 - Monster Hero

The monster is planning to capture the helicopter – can the hero save the day?



Algorithm:
1) Hero goes left.
2) When hero has left, hero goes right.
3) When hero has left, hero goes left.
4) After 10 seconds monster goes up.
5) When hero collides with monster he jumps, hero is red and a sound plays.

Can you sniff out the problems with the code?



 Brilliant computer scientists can 'debug' and fix errors in code.

Key vocabulary: Glossary

Algorithm / code	A set of instructions to follow	Debug	Solving, fixing, repairing a problem
Sequence	When things are in order	Error	A mistake

Collision detection	A way too program the computer to detect a collision	Timer	A command to run a block of commands after a timed delay or at regular intervals.
Button object	Objects the user can click on to make actions happen		