

Topic: Computing - Computer science	Year group	Term
Introduction to algorithms: Bee Bots	Year 1	Autumn 2 6 sessions

Background knowledge

Unplugged activities: using computing science without a computer.

Using hardware: A Bee Bot.

A Bee Bot is a programmable floor robot. It is a good starting point for teaching control, directional language and programming.

What should I already know?

I will control Beebots/ remote control cars.

I can share my ideas and adapt my work.

I learn and use new vocabulary.

I will write instructions.

Set and work towards simple goals.

Express their feelings and consider the feelings of others.

Think about the perspectives of others.

Work and play cooperatively and take turns with others.

National Curriculum Objectives / Key Skills	The Journey
<u>Subject intent</u> To stay safe online and understand the positives and negatives of being online. Develop basic computing skills to prepare for the world of work. To understand what algorithms are and how they are expressed using symbols. To create and change simple programs. I know what an algorithm is and I can express simple algorithms using symbols. I can create a simple program. I can run, check and change programs.	1. To explore the Beebot 2. To give clear instructions to build a Lego model. 3. To programme a person like a computer 4. To programme a Bee Bot 5. To debug a beebot 6. To program a sequence to make a Bee-Bot follow a given path.

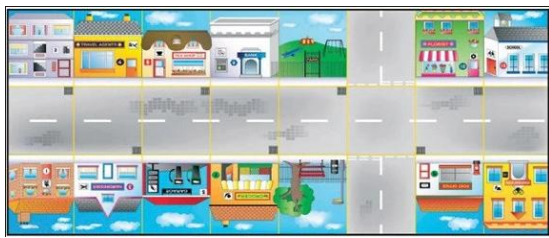
Outcomes

An overview of what children will know / can do

Working towards: I am beginning to follow and give instructions. With support, I can create a simple programme and understand where the instruction's mistakes are.

Expected: I know what an algorithm is and can create a simple programme. I can debug and correct a sequence.

Exceeding: I am confident with algorithms and can independently create programmes, spotting my own errors and debugging them to improve my sequence. I am confident using a Bee Bot.

Key Vocabulary	Timeline / Diagrams
Unplugged - using computing science without a computer Algorithm - a set of instructions which can be given to complete a task both on hardware and unplugged activities Program - to give instructions to a person or device Sequence - to put the algorithm in the correct order Instructions - to tell someone or a device what to do Debug - to spot errors and correct them Directions - up, down, left, right, forward, back, turn	 

Key people / places

Phil Bagge (creator of the sandwich bot)

Phil is passionate about

The importance of every child being exposed to quality computing science teaching and learning opportunities

The power of computing to develop pupil resilience and perseverance

The importance of mastering formative assessment to unlock great progress in computing

That every primary teacher can teach outstanding computing lessons

That computing is all about problem solving

Question of the week.

Can you say what an algorithm is?

Can children follow given instructions?

Can you put instructions in order?

Can you identify the error in instructions?

Can you give instructions to a Bee Bot?