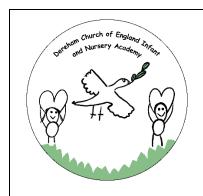
Dereham Church of England Infant and Nursery Academy-Computing





Year group: Year I

| Area/topic: Algorithm – Beebots (Spring 2)

(objectives from NC/ELG/Development matters)

Pupils to be taught:

- 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.

Prior learning Future learning · Children would have already been introduced • In Year 2 during Spring 1, the children will to Beebots in Reception where they explored be revisiting using Beebots to create playing with them. During Spring I they algorithms however they will build on this learnt about the different directions on a skill by being given different challenges to Beebot and used arrow cards to begin to overcome. understand that an algorithm is a set of instructions. They will build on this by creating an algorithm for the Beebot to follow using their knowledge of directions and arrow cards...

What pupils need to know or do to be secure				
Key knowledge and skills	Possible evidence			
 Children to secure their knowledge of what an algorithm is. Children to be able to input a set of directions using the arrow buttons on a Beebot to get the Beebot to move. Children to plan the algorithm first on paper before inputting it into the Beebot. Children to create an algorithm that will get the Beebot from A to B using a Beebot map. Children to make their own Beebot maps with certain features on for them to then programme their Beebot to get to. Children to be able to verbally explain the algorithm they created and the effectiveness of it. Children to consider alternative algorithms that will still achieve the same end goal e.g. (Which other route could the Beebot take on the map to reach the correct place?). hildren to debug their algorithm by making edits to their critten plans to improve it. 	 Children to use Beebots and a Beebot map to create different algorithms to get the Beebot from A to B. Children to create their own Beebot maps using paper or tape on the ground. Children to plan their algorithm before inputting it by drawing the direction arrows or cutting and sticking the arrow cards in a specific sequence. 			

Key vocabulary

• Algorithm - A set of ordered steps that can be followed by a

• Program - A set of ordered commands that can be ran by a

Sequence - A basic algorithm. A set of logical steps carried out

• Beebot - Robot in the shape of a bee.

computer to complete a task.

in order.

human or computer to achieve a task.

Instructions – A direction or order.

Common misconceptions	Books linking to this area
• Children may think they can debug and edit their algorithm mid-way through the Beebot running the program. However, children must be reminded that they need to press the 'X' button to delete the programmed sequence first before creating a new one. Children must also be reminded that unlike Scratch Jr they cannot edit just a small part of the algorithm, they will need to start again.	The adventures of Beebot! - https://www.starujumper.cam/book/read/71430025/The- adventure-of-a-bee-bot-
Memorable first hand experiences	Opportunities for communication
Children will be hands on using Beebots.	 Communication around what their algorithm is and the effectiveness of it will be encouraged throughout this half term. Children should be seen to be 'thinking out loud' when planning their algorithms.

Dereham Church of England Infant and Nursery Academy Reasonable adjustments for pupils with SEND

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Cammiin	ucation	and	Interaction
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- Make sure the children are using the correct equipment for them.
- Consider headphones to support the child to hear.
- Have someone available to read any text that is on the screen.

Social, Emotional and Mental health

- Timer so they understand when they will need to log off.
- · Clear boundaries.
- Online safety instructions made clear.

Cognition and Learning

- Consider adjusting the brightness and colour so they can see the screen more easily.
- Have someone available to read any text that is on the screen.
- Shorter steps given at appropriate time.
- Simpler logins.
- · Adult to support with logging in.
- Print out which the different functions and tools on.
- Step by step guide printed out for them to refer to.

Sensory and Physical

- Larger text/equipment.
- Print offs instead of screen time.
- Appropriate desk, chair, keyboard and mouse.