Bee-Bot Resources - Teacher Challenge Ideas

This is list of challenge ideas that do not require pre-purchased mats.

Tailor to your class - remember they should create an algorithm first, through informal jottings of how to solve the challenge. Encourage pupils to break the problem down into parts (decompose) and to debug as they go along. Remember a Bee-Bot moves 15cm per forward or backward move.

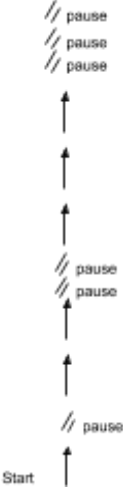| Challenge	Possible Algorithm	Notes
Make your Bee-Bot make draw a square.	↑ ↱ ↑ ↱ ↑ ↱ ↑	Encourage pupils to try the first turn and then gradually create the shape. There is no single answer, pupils could do this in many ways. You can discuss what makes any solution different/better/worse that another, e.g. takes longer to run, more steps to test, more fun.
Make your Bee-Bot write an ou sound.	(directional arrow path diagram forming "o u" shapes)	This might look wrong to some, but it depends how the child goes on to program it. Remember this is not a program but the algorithm that helps the programmer work out what commands to use. If the child understands they need to use the forward key for any straight arrow irrespective of orientation then their algorithm works for them. You could discuss whether other people could use it.　→ ↑ ↓ ←
Make Bee-Bot go to your partner and then come back to you.	↑↑↑↑ ↱↱↑↑↑↑↑	Pupils could just go backwards once they reach the partner
Make you Bee-Bot travel to the door and back.	Get to table 1 forward x 10, right, forward 3 then to table 3 left, forward 8 then to door right, forward 10	Pupils would have to use lots of trial and error to work out a longer route. Again encourage them to decompose and test each part.

Make a route for a story you know e.g. Draw the places that the character visited.	They might storyboard this.	Pupils create the setting for the route by drawing the background and the places for the character to visit on it. Pupils would have to use lots of trial and error to work out a longer route. Again encourage them to decompose and test each part.
Make your Bee-Bot move and count to 3.	// pause // pause // pause ↑ ↑ ↑ // pause // pause ↑ ↑ // pause Start ↑	Encourage pupils to test to each pause. There is no right or wrong answer, just different ones. They could interpret the question in many ways.
Make a maze for your friend to find treasure with your algorithm.	They might draw a grid and use coordinates to create a map.	Pupils would have to use lots of trial and error to work out a longer route. Again encourage them to decompose and test each part.
Make a Bee-Bot dance to a song, e.g. okey cokey	Pupils might create a plan for each part of the song.	Pupils would have to use lots of trial and error to work out a longer route. Again encourage them to decompose and test each part.
Make two Bee-Bots dance together.	This would be complex!	Pupils would have to use lots of trial and error to work out a longer route. Again encourage them to decompose and test each part.

Barefoot