30 Bot Activity Suggestions

Bee-Bot

Blue-Bot

Plenty of Bot Accessories.

- Mats
- Obstacle course
- Maze
- Pushers
- World Bundle

And much more.

Bee-Bots and Blue-Bots are incredibly versatile resources. They are well-known for teaching early coding skills, but there are also many ways they can be used across the curriculum,

Here you will find 30 fun activities to get you started with your Bots. Enjoy!

1.Nice to meet you!

Age range: 3-5

Sit in a circle.

- Point out the forward, go and clear buttons.

- Press the forward button once, then the go button to demonstrate how far the Bot travels in one move (15 centimetres). Point out that the Bot makes a beep-beep noise and his eyes flash when the move is finished.

- Explain that the clear button (X) must be pressed to clear the program.

- Choose a child opposite you in the circle and ask another child to guess how many moves it will take for the Bot to reach them. Press the buttons to see it go.

- Was the estimate accurate? If not, try again.

- Choose a child to programme the Bot to reach somebody else in the circle.

- Allow children to experiment with Bee-Bot. Can they get him to reach a different target? Can they get him to reach a target and return?

2. Colours
Age range: 3-5

Resources- Bot, a line of 15cm squared coloured paper, colour dice

- Hold each square up and ask the children what colour it is. Can they think of anything else that colour? Is anyone wearing something of the same colour?

- Place the squares in a line. The line can be as long as you like. Initially, a line of about 6 is ideal.

- Let children take turns to roll the die, see what colour is chosen and make Bee-Bot move to that square. They may be able to make Bee-Bot move backwards too.

- You can choose the move Bee-Bot back to the start, or go from the last chosen colour, depending on how difficult you want the task to be.

- After a while the children may be able to count the number of squares they need to move, and to press the forward or backward button the corresponding number of times.

3.Incy-Wincy Spider

Age range: 3-5

Resources: Bot dressed as a spider (decorate a shell or use the spider jacket from the Wildlife tin), drainpipe – a 90cm strip of paper, marked every 15cm, pictures of sun and a cloud

- Sing *Incy Wincy Spider* together.

- Place the 'drainpipe' on the floor.

- Place Spider Bot at the bottom of the pipe. Sing the first part of the rhyme together. "Incy Wincey spider climbed up the waterspout."

- Ask children to make Incy 'climb' the spout. (You might repeat the phrase until Incy gets to the top.)

- When Incy is at the top, place the rain cloud there and sing the next part of the rhyme "Down came the rain and washed the spider out". Let the children move Incy back down. Then swap the cloud for the sun and get Incy to climb up again!

- Are they going to turn Incy at the top or is he going to move backwards?

4. Names

Age range: 3-5

Resources: Bot, 15cm squares of paper

- Give each child a square of paper to write their name on.

- Put each name into a long line (or if there are lots of names, two parallel lines).

- The easiest option is to start from one end of the line, with children taking it in turns to make the Bot reach their name.

- Lots of opportunities will arise for looking at names. Ask the children whose name is next, or what sound the next name starts with, are there any other names starting with that sound? The Bot could move to all names starting with a particular sound, or with a particular letter pattern, etc.

5. Guess Who?
Age range: 5-7

Resources: Bot, a transparent grid, pictures of faces – e.g., children, adults in school, celebrities

- Discuss the pictures. Who are these people? What is special about them? What do they do?

- Look at the characteristics of the faces. Can children find someone with glasses, a beard, long hair, brown hair etc.

- Encourage children to say or to write a clue, or series of clues, about one of the people.

- Place the faces under the transparent grid.

- One at a time, children read, or listen to the clues, then program Bee-Bot to reach the person they think it is.

6. I-Spy
Age range: 5-6

Resources: Bot, pictures or objects representing different sounds, transparent or plain grid

- Rather than letter names, use letter sounds to play the game I-Spy.

- Place pictures representing different sounds on the transparent or plain grid.

- Choose a sound.

- Can the children see any pictures beginning with that sound?

- Can the Bee-Bot reach a picture beginning with that sound? Are there any other pictures it could have gone to?

7. Mail Delivery

Age range: 5-7

Resources: Bot, a suitable story (The Jolly Postman, for example, would be an excellent choice), small envelopes, busy street mat or customised mat, houses for your story choice (using boxes, paper bags or construction toys).

This activity can be more, or less complex depending on the time you have.

- Children could write letters to characters from your chosen story. They might simply address the envelopes, or they could be ready prepared for children to read.

- Children might create the houses to add to the mat, or they could be ready-made.

- If possible, find a way for Bee-Bot to carry the letters. This might be by pulling a trolley? Or using the pen holder jacket to attach a little box.

8. Name Spell

Age range: 4-7

Resources: Bot, alphabet mat

- Look at the alphabet mat together. Ask children to find the initial letter for their own name.

- Program Bee-Bot to spell out a name, pausing at each letter. Ask children to write down the letters as the Bee-Bot goes around the mat.

- In pairs, ask children to make a set of instructions for their own names first, and then programme the Bee-Bot.

- Was the algorithm correct? If not, debug and try again.

9. Find the Answer
Age range: 4-6

Resources: Bot, number cards 3 – 18, 3 dice, grid with numbers in random spaces

- Place a Bee-Bot on any square on the grid.

- Demonstrate first by rolling three dice and asking for the children's help to add them.

- Plan a route from wherever the Bot is, to the added number, writing the steps on a board.

- Ask a child to program Bee-Bot with their algorithm to test it.

- Did he reach the correct number?

- Children to work in pairs or small groups and play again.

10. Cave Explorer
Age range: 4-6

Resources: Bee-Bot, a variety of different sized cardboard boxes as caves. (These could be painted and decorated with foliage to create scenic features.)

- Show children the different caves and explain that Bee-Bot needs help to get through them.

- Choose a cave to demonstrate, asking the children to estimate how many steps it would need to get through and out the other side.

- Ask a child to program the Bee-Bot, then press GO.

- Did he reach the other end safely, or did he get stuck in the cave? Can the students debug their program if not?

11. Knock them Down
Age range: 3-6

Resources: Bot, pusher jacket, skittles (these can be home-made from water bottles with sticky tack in the lid to make them unstable), pictures or words to stick on the skittles

- Set up the skittles and decide on a starting point.

- Children need to make Bee-Bot knock down the skittles. How many steps will they need to program to do this?

- Put words, pictures or numbers on the skittles. Can children knock down (for example) the Big Bad Wolf, the number 7 or a word with /ch/ in it?

12. Shapes
Age range: 4-6

Resources: Bee-Bot, shape mat or transparent grid with shape cards, clue cards

- Place the shape pictures under the transparent grid. Name the shapes with the children and discuss their properties.

Clue cards may be ready prepared or written with/by the children.

- Pick a clue card from the pile.

    Card examples:
    This shape has 3 sides.
    This shape has one curved and one straight side.
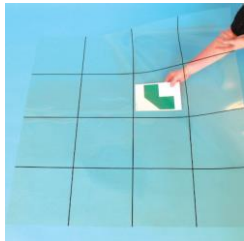   This shape has one curved side.
    This shape has 4 sides, all the same length.
    This shape has 6 sides.
    This shape has 5 sides.

- Can Bee-Bot reach the correct shape?

- Children take turns to program.

13. Find the Number

Age range: 4-6

Resources: Bee-Bot, number cards 1 – 16, transparent grid

- Place the number cards randomly in the grid.

- Place Bee-Bot on any number.

- Ask a child to program Bee-Bot to reach the number that is one more than the number he is on.

- Once he is there, choose a new target. It might be 3 less than, 4 more than, a number between 3 and 8. Targets can be differentiated to suit different children.
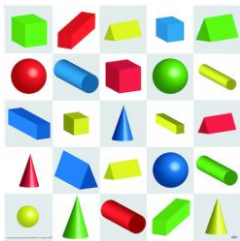
14. 3D Solids

Age range: 4-6

Resources: Bot, 8 cards saying - L, R, LL, RR, LLL, RRR, LLLL, RRRR

- Talk about turning left and right in quarter turns. Children turn together, pretending to be robots. Use the cards to practise. What happens if there are 4 quarter turns left? What about 4 quarter turns right?

- Place the Bot in the middle of four 3D shapes. What shape will he face if he makes one turn to the left? Pick up a card and program Bee-Bot accordingly. When Bee-Bot turns to the shape, ask a child to tell him about its attributes.

   (E.g, This is a cube. It has 6 faces and 8 corners.)

15. Coin Push
Age range: 3-5

Resources: Bee-Bot, pusher-jacket, coins, suitable quiz questions

- Create a 'coin push' game, such as you might find in an amusement arcade. Create a shelf for the coins to drop off (it could simply be the edge of a table) and a line for Bee-Bot to start behind. Program Bee-Bot to move forward one space and push the coins. (This will take a little trial and error!)

- Children might have to answer a question to get a go, perhaps in teams, or might simply take turns. The idea is to collect all the coins Bee-Bot has pushed from off the shelf, count them up and find out how much they have won.

16. Mark Making

Age range: 3-5

Resources: Bee-Bots, pen-holder jackets, coloured pens, large piece of paper, extra materials if required

- Show children the pen-holder jacket and explain that Bee-Bot can now draw! Demonstrate how to put the jacket on and how the pens go in. Allow children to program Bee-Bot however they like, choose a colour, add a pen to the jacket and set him going to create lines and shapes.

- Children will love having a huge expanse of paper and different colours to experiment with and if the space is big enough, several children could draw at the same time. Remind children about the importance of replacing pen lids before choosing another colour and set a rule that Bee-Bot must stay on the paper.

- Once children have created their Bee-Bot work of art, they may like to enhance it by colouring in any shapes created or by adding any extra bits and pieces, such as other materials, fabrics or sparkles.

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17. 999 Emergency

Age range: 3-5

Resources: Bee-Bot, pen-holder jacket

This activity fits well into a 'People who help us' topic.

- Talk about the word *emergency* and what it means. Who might help if there was an emergency? The emergency services include the police, the fire service, the ambulance service and lifeboat service (RNLI) and each of them may be accessed by using one three-digit telephone number. This obviously varies depending on which part of the world you are in; however, it is a very important number for children to learn and remember.

- Use Bee-Bot with the pen-holder jacket and see if children can program and draw each of the 3 digits. Is it possible for children to work out a way to write the 3 numbers together without stopping Bee-Bot in between? This is very challenging!

- Children might dress Bee-Bot as an emergency vehicle, either using jackets from the Busy Street tin, or by decorating a template.

18. Drawing Digits
Age range: 3-5

Resources: Bot, pen holder jacket, large pieces of paper

- Demonstrate how numbers are shown on a digital clock.

- Put children into pairs or small groups.

- Explain that their challenge is to use Bee-Bot (with the pen-holder jacket) to make every digit from zero to 9. They must also record each algorithm to show how it is done. This might be achieved using sequencing cards or written down either on paper or whiteboards.

19. Letter Writing

Age range: 3-5

Resources: Bot, pen holder jacket, large pieces of paper

- Which letters can children make by programming Bee-Bot and using the pen jacket?

- Can they program Bee-Bot to write a 3-letter word? Who can make the longest readable word?

20. Line Graph

Age range: 3-5

Imagine children are going to an event and you want to pre-order ice-creams for the interval. Together, name all the flavours children can think of, then narrow it down to a choice between 3 or 4 of them. Decide on a coloured pen to represent each flavour, e.g. vanilla – yellow, chocolate – brown, strawberry – red etc.

- Draw a horizontal line at the bottom of a very large piece of paper, write the chosen flavours under the line and place 3 or 4 Bee-Bots side-by-side behind the line with a few centimetres between them. Put a pen-holder jacket on each Bot and add the chosen coloured pens so that each one represents a different flavour. Make sure each Bee-Bot is switched on and the previous commands have been cleared.

- One at a time, children choose their favourite and press the forward arrow just once. When each child has made their choice, press the GO button for each Bee-Bot. Children will clearly see which is the favourite flavour because it will have the longest line! Talk about what else the chart shows. How can children know how many chose each flavour?

Extension Activity-To add an extra dimension, children might be asked to put their preferences in order; so their first choice flavour gets 3 presses, second choice 2 and third choice 1. Does this change which flavour comes out overall favourite?

21. Pusher Jacket

The pusher jacket is great for enabling Bee-Bot to take objects from one place to another and any of the ready-made Bee-Bot mats may be used for this purpose. All of the new Bee-Bot tins contain accessory pieces made with this in mind this, but if you don't have the tins, any small world objects could be used.

Examples might include:

- Place an animal on one square and explain it needs to be taken to the vet/a park/home. Children must programme Bee-Bot to 'collect' the animal and deliver it where it needs to go.
- Collect a bunch of flowers from a shop and deliver them to a house for someone's birthday.

There are so many possibilities; children could make up challenges for each other.

If the route doesn't work first time, get children to debug their algorithm and try again.

Extension Activity- The challenges may be differentiated to include avoiding certain obstacles or adding more pieces that must be collected and delivered.

22. Three Little Pigs

Age range: 3-5

This activity will work best with a small group of children.

Begin by reading a version of 'The Three Little Pigs', getting the children to join in with all the familiar refrains.

Tell the children they are going to re-tell the story using Bee-Bot and a story map.

Using a very large piece of paper, and following the 3 Little Pigs sequence, plan out a story map together (or use the Fairy Tale Mat if you have one.) Add 3D houses of straw, twigs and bricks along the route and if possible, turn Bee-Bot into the wolf, either by adding one of the character jackets from the Fairytale Tin or perhaps by adding ears and large teeth! Program Wolf Bee-Bot to go to each of the houses in order, pause in front of each and make 4 turns as you all say the well-known refrains together:

> "Little pig, little pig, let me come in."
> "Not by the hair on my chinny chin chin,"

> "Then I'll huff and I'll puff and I'll blow your house down."

Change the wolf jacket for the pusher jacket and 'blow' the house of straw away by programming Bee-Bot to push it the off the mat. Do the same for the house of twigs. When it comes to the final house, use a weight, or similar so that Bee-Bot cannot push it away.

Extension Activity - Sort a selection of items into things Bee-Bot is able to push and those he cannot. What is the most Bee-Bot can push? Does the surface matter? Can Bee-Bot push on an incline?

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23. Multiples of...

<u>Examples – from the Bee-Bot Maths Cards</u>
Resources: Bee-Bot, transparent grid mat or pocket mat, sets of number cards that are multiples of 5 and 10

- Set up the mat as shown here.

50	35	10	45
15	70	25	60
80	5	40	90
30	55	100	20

- Program Bee-Bot to travel to the multiples of 10 in order, starting at 10.
- Now repeat for multiples of 5.

24. I'm Thinking of a Number

Resources: Bee-Bot, transparent grid mat or pocket mat, sets of number cards in range 0-20

- Set up the mat as shown here.

Start	10	15	7
4	8	12	16
13	20	3	18
11	5	14	9

- Place Bee-Bot on Start. Bee-Bot is thinking of a number, he says:
  "My number is even. It is greater than 3. It is in the three times table."
- Can you program Bee-Bot to travel to the number it is thinking of?
- Describe a number for your partner to program Bee-Bot to travel to.

25. Match My Number

Age range: 3-5

Resources: Bee-Bot, transparent grid mat or pocket mat, sets of numbers as words to 20, 1-20 dice

- Set up the mat as shown here.

twelve	nine	fifteen	four
six	two	thirteen	twenty
fourteen	five	eighteen	sixteen
eight	eleven	three	nineteen

- Roll the dice and place Bee-Bot on this number.
- Take it in turns to roll the dice and program Bee-Bot to move to this number.
- Collect 1 point if you are correct. First to 5 points is the winner.
- If your number is not on the board then miss a go.
- Which numbers would you not want to roll?
  - Convince me.

26. Totals to...

Resources: Bee-Bot, transparent grid mat or pocket mat, sets of number cards in range 0-10, 0-9 dice

- Set up the mat as shown here.

2	5	7	10
3	9	4	8
0	2	7	1
10	6	5	4

- Roll the dice and place Bee-Bot on that number.
- Program Bee-Bot to travel to the number that when added to the start number will total 10.
- Challenge: Use a different total e.g. 8.
- Which numbers won't be used?
    Convince me.

27. Odds and Evens

(From the Bee-Bot *Busy Street* tin)

Resources: Bee-Bot, Busy Street Mat, Bee-bot shell jacket

- Use the Busy Street mat or set a mat up as a street.

- Do children know their own addresses? Explain that most properties are given a number to make them easier to locate.

- Decide on numbers for each of the buildings on the street. Talk about how they go in sequence and how one side is often odd and the other side even.

- Strangely, some streets are missing the number 13; why might this be? [Because superstitious people think it is unlucky!]

- Add number cards to each property.

- Make Bee-Bot into a post van (with the jacket if you have it).

- Prepare envelopes with addresses, e.g., 6 Busy Street.

- Children program Bee-Bot to deliver the letters.

For greater challenge and to assess understanding, ask differentiated questions such as: "Can you send Bee-Bot to the first odd number after 8...the number between 11 and 13...etc."

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28. Rubble Race

(From the *Construction* tin)

Resources: Bee-Bot, Construction Mat, Pusher jacket

When building on a new site, lots of dirt and rubble must be removed. Play a game to get rid of it from the mat.

- The object of the game is to remove all the 'rubble' from the mat. Use small rolled-up bits of scrap paper as rubble and throw it all over the mat.

- Children are not allowed to touch the 'rubble' but must push it off the mat using Bee-Bot. Use the Bee-Bot pusher jacket, or perhaps tape a cardboard version to his front.

- Give each child an amount of time, e.g., 3 minutes.

- Bee-Bot must start from off the mat. Any 'rubble' that comes off the mat can be collected. The winner is the one who has collected the most or is the first to fill a particular container.

- Or play in teams. Time how long it takes one team to get rid of all the rubble. Can the next team beat that time?

- Talk about how there must be exactly the same amount of 'rubble' on the mat for it to be a fair competition.

29. The Chase!
(From the Fairytale tin)

Resources: Two Bee-Bots, jackets for the giant and Jack, a beanstalk, multiple choice questions.

This game is based on 'Jack and the Beanstalk' and takes a little preparation, but children will enjoy the idea of a chase.

Will Jack get away with the Giant's possessions or will he be caught?

- Draw a large beanstalk ladder segmented into eight 15cm parts.

- Use jackets to transform one Bee-Bot into the Giant and the other into Jack.

- Play a game like the TV programme 'The Chase' by placing 'Giant Bee-Bot' at the top of the beanstalk and 'Jack Bee-Bot' two steps ahead. One child will play as Jack and one, the Giant. (Jack's aim is to get to the bottom and the Giant's aim is to catch Jack.)

- Prepare some multiple-choice questions where the answer is a, b or c. (The questions can be differentiated to suit. They could be pure guesswork, such as "What is the tallest beanstalk ever grown?" (a. 14.1 metres, b. 20.3 metres, c. 4.4 metres)

- Both players write a, b or c on a whiteboard. Whoever is correct gets to move one space down the beanstalk. Will Jack get to the bottom first or will he be caught?

- Whoever wins, it is an opportunity to talk about the feelings of both Jack and the Giant. Was Jack right to steal? Did the Giant deserve what he got? etc.

30. In the Spider Spin
(From the *Wildlife* tin)

- Turn Bee-Bot into a spider and draw a spider's web.

- In the middle of a large piece of backing paper or similar, draw concentric circles, starting from the middle and getting bigger.

- Using the pen holder jacket, get Bee-Bot to draw the first circle and go out from there.

- Next, program Bee-Bot to draw straight lines from the outer circle right through the middle to the other side, creating the web effect.

- Using the web, play a game to catch flies.

- Throw a 'fly' (rolled up bit of black paper) onto the web.

- Programme Spider Bee-Bot to catch the fly. If he manages to touch it, he pretends to eat it.

- How many flies can he catch in 5 minutes?

- You might also use the web as a display and add 3D or painted spiders to it.

If you have a brilliant idea that you would like to share, please get in touch.