

Introductory Activities for the Beebot

SGS1.3 Position: Represents the position of objects using models and drawings and describes using everyday language

MS1.1 *Length*: Estimates, measures, compares and records lengths and distances using informal units, metres and centimetres

WMS1.2 *Working Mathematically (Applying Strategies)*: Uses objects, actions, imagery, technology and/or trial and error to explore mathematical problems. (**Visualisation**)

WMS1.3; 1.4 *Working Mathematically (Communicating and Reasoning)* Describes strategies used to solve a problem using language, actions, materials and drawings.

Indicators:

- Understands and uses directional commands (forwards, backwards, left and right turns) and some commands associated particularly with the robot (eg **Clear; Go; Pause**)
- Orientates themselves & objects in space and directionality - *using commands forwards backwards right turns, left turns.*
- Estimates and measures length /distance using informal units (eg Beebot Steps) eg *How many steps to get from the Beehive to the flower?*
- Discuss strategies used to estimate length eg visualising the repeated unit (Communicating, Reflecting)
- Describes /plans and records a simple journey/ program (a short sequence of commands for the Beebot to follow a path from one place to another . eg *Plan a trip for Bertie to collect nectar from a flower; or to return to the hive. Is there another way he could go?*
- Uses ‘trial and error’ and reasoning to pose /modify solutions to solve a Beebot Journey challenge.

Language

Students will have the opportunity to use the following target language

Procedural language - Simple commands and command sequences ; eg “*Go forward 3 steps, turn left, go forward 2 steps*”

Prepositional phrases ; including

- Phrases of Position /Location eg **from the hive to the flowers; through the gate; along the path;** etc
- Directional phrases eg *go forwards, backwards; right and left turns etc*
- KLA Specific Vocabulary eg **recounts of an excursion; retelling of stories such as ‘Rosie’s Walk’ or topic words from HSIE such as Community words.** Use photos for place cards eg

Technical vocabulary /concepts associated with control technologies (*eg commands, memory, buttons, pause, clear, forwards, backwards; right and left turns etc*)

Tasks

INTRODUCE THE BEE-BOT. Discuss features of the Bee-bot and how we program him.

ESTIMATE DISTANCE TRAVELED IN BEEBOT STEPS Explore the distance traveled by Bee-bot in each step then estimate number of steps to travel short distances *eg across the table* etc

BEEBOT “ODDS AND EVENS” RELAY This game is designed to allow students to become familiar with the programming of the robot Students form two teams The goal of the game is to be the first team to cross a line.

Use a Beebot and single die per team, students take turns in rolling the dice and programming the Beebot to travel forwards or backwards (*odd numbers 1, 3, or 5 go forward; even nos , 2, 4, 6 go backwards*) The first team to cross the line wins.

BEEBOT JOURNEYS

Programming: Use a simple grid mat. Place some cards (*beehive, flowers* etc) or small toys on/under the mat. Jointly construct a program for the Bee-bot to visit the places or characters. Test it out. As students grow in confidence build short sequences of instructions and record as series of commands). Challenge students to use a range of possible solutions *eg*

- Can you write directions for the Beebot journey? (students use mini whiteboards for their recording)
- Can you find a longer /shorter path?
- Is there a more direct route? ...a more interesting route?
- Can you create an interesting path with 3 or 4 commands?

Recounts: Once students have some confidence there is also the possibility to express these journeys as simple recounts as well. This gives the opportunity to develop prepositional language. Build up a **Word Bank** of these prepositions with accompanying pictures. Students could write a recount and invite another student to interpret it and program the Beebot to take the trip. (See Beebots Downunder website to download the pictures)

SHAPES GAME Identifying multi attribute 2 D shapes -Set up a SIZE, COLOUR and SHAPES Mat. Students draw a card from a pile and then program the Beebot to visit the shape. Encourage students to use the “**HOW TO PROGRAM YOUR BEEBOT**” poster.

1. Take THINK TIME and LOOK carefully.
 2. MAKE A PLAN in your mind.
 3. TELL /RECORD how you think you will get there.
 4. PROGRAM your Bee-Bot.
 5. TEST your plan.
 6. If your plan doesn't work TRY AGAIN!
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Reflection

Invite students to reflect on their own learning experience

Today I learnt.....

Something I found tricky or challenging.....

Today I helped the group/my partner to/by.....

When we work with the Bee-bots again, I think we could

How to Program your Beebot

1. Take **THINK TIME** and **LOOK** carefully.
2. **MAKE A PLAN** in your mind.
3. **TELL /RECORD** how you think you will get there.
4. **PROGRAM** your Bee-Bot.
5. **TEST** your plan.
6. If your plan doesn't work **TRY AGAIN!**



Don't forget
the
CLEAR
button