

Coding Without Technology



Lesson Title:	Coding Your Friend-Bot
Grade:	Grade 4
Curriculum Area(s):	Language
Prior Knowledge:	Coding and directional language (e.g. forward, jump, turn, left, right, up, down) Spatial awareness and safety within the classroom

Curriculum Expectations:

Language: Oral Communications

- 1.1 identify purposes for listening in a variety of situations, formal and informal, and set goals related to specific listening tasks
- 2.1 identify a variety of purposes for speaking
- 2.3 communicate in a clear, coherent manner, presenting ideas, opinions, and information in a readily understandable form

Grouping:

Partner, Whole group

Assessment:

These lessons provide opportunities for teachers and students to gather evidence through teacher, peer, and self-assessments; and learning goals and success criteria. See *Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools, Chapter 4* for more information.

Materials/Resources:

Classroom or spacious area
Coding / movement language anchor chart
iPad with Bee-Bot app (optional) - extension with technology
Bee-Bot robot (optional) - extension with technology

Lesson:

Minds on:

Review the coding/directional language previously used in class activities (if you have not, a suggestion would be to discuss direction language and produce a labelled anchor chart).

Before beginning today's activity review classroom safety rules with your students.

Action:

Introduce today's activity with a brief discussion of the purpose of listening and speaking in this activity. Suggested steps are as follows:

- students are asked to stand with a partner (all chairs pushed under the student's desks)
- one partner is to meet for further instructions, second partner is to space themselves around the classroom (they may have their eyes closed when the activity begins - ensure appropriate student safety)
- one partner is given the instructions to request their partner to move around the room and to return to their original place (with verbal instructions only, using the directional language, no touching their partner)
- the partners reunite and the activity begins
- teacher observes students (for verbal communication between partners, directional language being used, safety)
- after 5 minutes students gather in middle of classroom and share successes and challenges of the activity
- student feedback may include: they found it hard to keep their eyes closed because it wasn't natural; they ran into desks; directions given by their partners were hard to understand until they used simple directions they were familiar with
- partners reverse roles with new instructions to be provided to the second partner group
- students are asked to have their partners make an '8' around two groups of desks (again with verbal instructions only, directional language, no touching their partner)
- the partners reunite and the activity begins
- teacher observes students (for verbal communication between partners, directional language being used, safety)
- after 5 minutes students gather in middle of classroom and share successes and challenges of the activity.

- student feedback may include: important verbal prompts used included: walk, forward, given measurements, go, “follow my voice”, “turn to my voice”, north, south, east, west (directional prompts), stop

Consolidation, Connection, and Reflection:

Teacher and students gather for activity reflections (verbal) on appropriate listening and speaking for the purpose of this activity.

Teacher and students discuss real-life applications of this activity (e.g. reading a map, coordinates on a grid, GPS, etc.).

Modifications:

Students may not wish to close their eyes. Partnering may be random or pre-decided based on teacher professional judgement.

Next Steps:

To reinforce directional language:

- students and teacher go into the hallway (or open space with floor tiles)
- teacher demonstrates making a letter using the floor tiles (making letter O); students share their observations
- students are asked to create a letter on the floor, one tile at a time, and have their partner guess the letter created (repeat 4-5 times each student)
- templates of Upper Case letters can be provided for students.

Extension Links

- Bee-Bot (robot or app) could be reviewed for function and purpose - extension with technology.