COMPUTER SCIENCE & DIGITAL FLUENCY SMART START GRANT LESSON PLAN

Date: March/April 2026 **Unit/Lesson:** Self-control/unplugged coding/Bee Bots

Approximate Time (in minutes) to complete lesson:
(6) 15 - 20 minute Lessons

Grade Level:
1

Materials and/or Resources Needed:

- Canva Presentations on SmartBoard
- Laminated left/right/up/down arrows.
- Laminated arrows for turn left/turn right.
- Floor grid on tarp/taped grid on floor/carpet with grid pattern.
- Laminated Bee Bot Grid sheets - showing routes and for recording
- Bee Bot Mats - I used ones I made but can use purchased ones with graphics of your choice

CSDF Concept/Standard Addressed:
❑ Impacts of Computing
☒ Computational Thinking
K-1.CT.6: Follow an algorithm to complete a task.
K-1.CT.10: Collaboratively create a plan that outlines the steps needed to complete a task
K-1.CT.9: Identify and fix (debug) errors within a simple algorithm.
☒ Networks and Systems Design
K-1.NSD.1: Identify ways people provide input and get output from computing devices.
❑ Cybersecurity
☒ Digital Literacy
K-1.DL.2: Communicate and work with others using digital tools

Student-friendly "I Can" Statements:

- I can… Listen, Think, Do when completing a lesson from my teacher.
- I can… Complete a task using a set of steps in the correct order (algorithm).
- I can… Find the mistake in my task (algorithm) and fix it (debug).
- I can… Work with my peers to create a plan with steps to complete a task.

Cross Curricular Links:

- **SEL - Inhibitory Control -** resisting the urge to just ask and to think before acting.
- **Science and Engineering -** Engineering Design Process
- **Mathematics and Geometry** - Spatial awareness, Measurement and estimation
- **Literacy and Language Arts** - Sequencing, Instructional Language, Vocabulary

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ENGAGING THE LEARNERS	The lesson was scaffolded over six sessions to refine and establish classroom norms of self control and direction following, develop awareness of the language of coding and how it works in computers as well as everyday life, and then to put those skills into practice using the Bee Bot computers. The sessions took shape in many forms; game playing, pencil and paper unplugged practice, classroom lecture, and hands-on experimentation with Bee Bots.
EXPLORING THE CONCEPT	Students will explore the concept of coding and algorithms while engaging in lessons that will improve the classroom dynamic, promote collaboration among students, and allow for investigation of Bee Bot educational robots.

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EXPLAIN THE CONCEPT(S)	-The first lesson involved the students discussing the five senses and identifying senses and behaviors that would be best practice in a student ready to learn. They then were "reprogrammed into robots (or computers)"- a system of hardware and software that only does exactly what its programmer tells it to do. Students then are led in a "Simon Says" style game where they are "activated" by the word "enter." -The second lesson students introduced key vocabulary words and concepts of coding and the Bee Bots through the use of the book *Buzz Buzz Bee Bot* by Jessica Breakfield. -The third lesson involved using a floor grid and laminated arrows/recording sheets to write code to move a "human robot" from one area of the floor to another. This lesson got them actually keeping track of how many steps/boxes the "robot" would move from their starting point to their destination and learning to refine their directions. -During the fourth lesson, students were able to experiment with the Bee Bots by exploring how they respond to commands, by estimating where they go and refining/debugging their code to get them to a destination of their choice. -In the fifth lesson, students used sheets that simulated the mats and recorded their coding to get in the practice of writing code and following code. -In the sixth lesson, students used prepared mats to get the Bee Bot from a designated starting point to the hive.
ELABORATE	This lesson could be divided much differently. It was written and initially done in a stand-alone Computer Technology special that meets once every 5-day rotation, so was divided into manageable time periods for that constraint and the age of the students. Regardless of timing, it is intended to work through some concepts of computing (hardware/software, input/output), classroom management and expectations, and introduction to coding with the intent on using Bee Bots.

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EVALUATE: Assessment of Student Knowledge:

☒ Informal (observation, student work sample, etc..)

❑ Formal (formative or summative)

Homework / Notes / Reflection:

- For another school year, I would likely begin this lesson strand earlier in the year and revisit both the expectations and the coding/Bee Bots throughout the year as time allows and by increasing the rigor.
- I think the lesson would have been more effective if I was able to teach each lesson closer to the last but scheduling did not allow this. The kids loved it and retained information from one time to the next though, so that may not be critical.