

Coding @ Park Grade 1 #1

Overview: This lesson is to introduce coding to students in grade 1 through a robotics activity using the Kibo robot kits

Students learn the specific coding blocks: forward, back, left, right, shake, beep

WHY?

- Taken from the Tufts DevTech Group white paper “[6 Key Benefits of Using Robotics in the Early Childhood Classroom](#)”
 - Coding Teaches the Literacy of the 21st Century
 - Coding Develops Computational Thinking Skills
 - Technology Becomes the Playground
 - Robotics Makes Coding Tangible and Concrete... and Screen-Free!
 - Using Technology Breaks Down Engineering Stereotypes
 - The Engineering Design Process Develops Grit and Perseverance
- Also see this e-Book [Beginning Computer Programming for Kids](#)

Essential Questions:

- What is a robot? What isn't?
- Can I program my robot to do what I want it to do?
- Can the robot do everything I can do? What are the limitations of this robot?
- Are all robots the same?

Directions to Homeroom Teachers

Please divide your students into 4 groups.

Coding Activity Plans

8:40-9:40 am

8:40-8:55

Introduce today's lesson by

- Introducing yourselves and coding @ Park
- reading Eric Carle's "From head to Toe" book
 - Digital book: [Megan's photos of the book in a slideshow you can project and read](#)
 - [From Head to Toe](#) as a song on youtube
 - [Another version](#) on youtube
- Discuss how different animals can make different movements, and not all animals can make the same movements, transition into discussion of what humans and robots can and can't do, different robots are made to do different things, etc. [what is a robot?](#)
- Introduce KIBO and show the parts, use the slideshow to show the

	<p>blocks, DEMO</p> <ul style="list-style-type: none"> ○ How the wheels fit in (green dots showing) ○ How to turn it on ○ How to scan blocks (starting with Start and ending with End and command blocks in the middle) <p>OPTIONAL SLIDESHOW with intro to kibo motors and wheels</p>
8:55-9	<p>Break students into small groups and ask them to have the robot use the following commands:</p> <ul style="list-style-type: none"> ● Forward ● Back ● Left ● Right ● Shake ● Beep
	<p>Students come up with a statement for the robot “I’m a robot, and I can dance/move like this... Can you?” The robot will complete moves, and then the students will repeat</p> <p style="text-align: center;">-OR-</p> <p>Vice versa- the student dances, and the robot follows “I’m a 1st grader and I can dance/move like this. Can you?”</p>
9-9:25	<p>Learning Through Playing Optional challenges:</p> <ul style="list-style-type: none"> ● see if you can get your robot to do the hokey pokey ● Class synchronized programming
9:30-9:40	<p>Sharing in Circle:</p> <ul style="list-style-type: none"> ● each group shares what they programmed their robot to do <p>Discussion:</p> <ul style="list-style-type: none"> ● Could you program your robot to do what you wanted it to do? ● Can the robot do everything you can do? What are the limitations of this robot?

[Feedback from teachers](#)