

Lesson 2: Bot or Not?

Name:	CAL-KIBO Curriculum for PreK
Subject:	Lesson 2
Head Start:	Approaches to Learning P-ATL 2. Child follows classroom rules and routines with increasing independence. P-ATL 3. Child appropriately handles and takes care of classroom materials. P-ATL 11. Child shows interest in and curiosity about the world around them. Scientific Reasoning P-SCI 3. Child compares and categorizes observable phenomena. Literacy P-LIT 3. Child identifies letters of the alphabet and produces correct sounds associated with letters.
Powerful Ideas of Computer Science:	• Hardware/Software
Pedagogical Connections:	Playground (Choices of Conduct) Another Language (Alphabet and Letter Sound Correspondence) Bridge Palette of Virtues (Curiosity, Forgiveness, Persistence)
Lesson Objectives:	Students will be able to... • Discuss classroom behaviors for using KIBO • Compare robots with non-robots • Identify common characteristics of robots
Preparation for Teachers: <i>Estimated Prep Time: 10-15 minutes</i>	☐ Read lesson plan ☐ Create or display KIBO Kind and Safe Anchor Chart ☐ Obtain 3 buckets or baskets and label them: “Robots”, “Not Robots”, and “Maybe Robots” ☐ Gather and print pictures and videos of robots and non-robots
Vocabulary:	KIBO - a screen-free robot for kids Kind - nice and caring to ourselves and to others Program - give instructions for a computer or robot to do automatically Robot - machine that does things without the help of a person Safe - careful so that we can protect ourselves and others
Activity 1: Being Kind and Safe with KIBO and People <i>Whole Group</i>	Remind students that they are going to be using a robot called KIBO. Explain to students: <i>Last time we talked about what we know and wanted to know about robots. Today, we are going to continue talking about what robots are and what robots can do.</i> Explain to students that before they get to play with KIBO, there are some class norms to follow about being kind and safe to each other and to KIBO. Take time to review your standard classroom procedures here.

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	Show students the KIBO Kind and Safe Anchor Chart. Guide students through each letter and explain what it stands for: • <i>The first letter of KIBO is K. K is for “Kind words to”. We say this when we want to tell someone we like what they are doing. For example, you can say “I’m sending kind words to my students for listening carefully to instructions!”</i> Ask students to practice sending kind words to a classmate. • <i>The second letter of KIBO is I. I is for “I respect you. You respect me.” When we are working with KIBO, we have to show respect to each other. This can look like taking turns or listening to what someone is saying.</i> Ask students what else respect means and looks like. • <i>The third letter of KIBO is B. B is for “Bodies are safe.” When we work with KIBO, we have to keep our bodies safe. That means our physical bodies, but also the KIBO bodies.</i> Ask students to demonstrate what safe bodies look like and how they should hold objects like KIBO carefully with both hands. Another part of being safe with KIBO’s body is not spinning KIBO’s motors with our fingers because that can break the motors. • <i>The fourth letter of KIBO is O. O is for “Oops, let’s try again!” Sometimes, we might make a mistake when we’re working with KIBO, but that’s okay. When that happens, we just say oops and try again.</i> Ask students to think of a time when they made a mistake or did not know how to do something correctly the first time but were able to after spending more time and effort.
Activity 2: Is/Is Not a Robot <i>Small Group</i>	Designate and label three buckets or baskets: one for “Robots”, one for “Maybe Robots”, and one for “Not Robots.” One at a time, show a variety of different pictures and videos of robots and non-robots (e.g., computers, plants, cars, animals, foods, famous robots such as Wall-E and R2D2). Ensure that pictures and videos include a variety of real-world robots, such as home robots, space robots, factory robots, hospital robots, and child-made robots. Supplement each video with a picture to use for the activity. One by one, ask students to put the picture in the bucket that they think represents the picture. Then explore why they think that picture does, does not, or maybe represents a robot. Ask students: <i>What features make it or don’t make it a robot? Is this something that was made by a human or by nature?</i>
Activity 3: Defining a Robot <i>Small Group</i>	Based on students’ ideas from the previous activity, brainstorm a list of characteristics that students think a robot should have. For instance, students might say “robots must be told what to do, sometimes they have eyes and ears, robots can move, etc.” Then provide students with the following definition of a robot. A robot is a machine that does things without the help of a person. Many people think of robots as machines that look and act like people. Most robots, though, do not

	look like people. Robots do only what a person has built them to do. (Britannica Kids) Build upon this definition by explaining to students what a robot is and is not and correcting any misconceptions from the previous activity. Discuss with students the following key points about robots (KinderLab Robotics): ● Robots are machines. ● Robots are not alive (unlike animals, which are alive) ● People tell robots how to behave with a list of instructions called a program. ● Robot parts let robots do different things, just like animal parts. For example, some robots have motors and wheels that help them move, just like cars. ● Not all robots look alike. ● Some robots can tell what is going on around them (and take in information) through the use of sensors. For example, some robots can sense light, temperature, sound, or touch. Explain to students that KIBO is a kind of robot that was made especially for children. KIBO can do some of the same things that people can do, but KIBO can also do things that people cannot do. We will be having a lot of fun learning and playing with KIBO!
Opportunities for Differentiation:	Activity 1: Reinforce classroom procedures that you already use with students. For instance, you may want to review procedures for large-group discussions, small group and independent work, gathering and putting away materials, calling for students' attention, and any other procedures for using KIBO. Activity 2: As a movement activity, replace the baskets or buckets with three corners of the classroom. Label each corner with the three labels: "Robots", "Maybe Robots", and "Not Robots". Have students walk to each corner when you hold up a picture or show a video of a robot/non-robot.

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