

**Lesson 5:
We are Programmers**

Lesson 5 Overview: Lesson 5 teaches children how to scan KIBO's programming blocks and helps children identify the role of the programmer in programming a robot. Children also practice using the Begin and End blocks, as well as the Motion Blocks.

Powerful Ideas from Computer Science: Representation, Hardware/Software, Algorithms, Debugging

Powerful Ideas from Literacy: Tools of Communication and Language, Sequencing

I. Warm Up: Who Are These People?

- Illustrate that programmers can be of all different backgrounds (gender, race, ethnicity, age) with pictures!

II. Opening Tech Circle: Human and Robot Languages

- Ask children to give an example of a question, a sentence, and an instruction in a language of their choosing.
- Tell children that computer languages only use instructions, which are also known as programs. This is why computer languages are known as programming languages, and people who give these instructions are known as programmers.

III. Unplugged Time: Programmer Says

- This activity is played like the traditional "Simon Says" game, in which children repeat an action if Simon says to do something. Briefly introduce each programming instruction and what it means. Have the class stand up. Hold up one big KIBO icon at a time (use the Programmer Says Cards) and say, "Programmer says to _____". Repeat each block multiple times.

IV. KIBO Time: Scanning How-to & Free Play

- To help children feel comfortable assembling and scanning programs with KIBO, first demonstrate how to scan the barcodes on KIBO's blocks.
- Then, allow children to engage in free play where they practice creating and scanning three block programs (Begin, Motion, End).

V. Closing Tech Circle: I am a Programmer

- In a circle, have each child say a sentence reflecting on the lesson. Each sentence should begin with "I am a programmer when" and then talk about one thing they did or enjoyed today during the KIBO lesson.

Vocabulary:

Programming languages

Program

Programmer

KIBO Blocks:

Motion Blocks