

Lesson 11: Bugs!

Lesson 11 Overview: In Lesson 11, children are introduced to the concept of debugging.

Powerful Ideas from Computer Science: Debugging
Powerful Ideas from Literacy: Editing and Audience Awareness

I. Warm Up: Design Process Song

- Remind the children of the *Design Process Song* and sing it again as a class!

II. Opening Tech Circle: Debugging

- Show the design process chart again and remind children of the steps for programming KIBO: Ask, Imagine, Plan, Create, Test and Improve, Share! Explain that we will be learning about how to Test and Improve! Tell children that we need to test our programs to see if they follow our plan, and if they don't, we need to improve!
- When programs don't follow the plan, we call that a BUG, and improving is called debugging.

III. Unplugged Time: Debug the Teacher

- Children give instructions to “program” the teacher to have the teacher do something. When children give instructions, they'll need to be very specific for the teacher to complete the program. If instructions are not clear, do it “wrong” based on instructions. Children will have to fix/edit/debug their instructions when they are wrong.

IV. KIBO Time: Find That Bug

- Recreate some Buggy Programs and explain to children what your plan was. Then show the children the program and point out a few things that aren't working like you wanted them to. Have children take turns raising their hand and debugging things in your program.

V. Closing Tech Circle: Celebrating the Process

- As a class, come up with a celebratory cheer or special high-five whenever a child solves a problem. Cheer for each child in the class to celebrate their debugging work today.

Vocabulary:

Bug
Debugging