

Lesson 18:  
If and Only If!

**Lesson 18 Overview:** Lesson 18 introduces children to conditional situations in everyday life. Children are introduced to and explore the If and End If Blocks with the familiar Distance and Light sensors.

**Powerful Ideas from Computer Science:** Algorithms, Control Structures  
**Powerful Ideas from Literacy:** Literary Devices

## I. Warm Up: Four Corners

- One person is selected to be “It” and stands in the middle of the room with their eyes closed. The other students all go to four corners of the room. The person who is “it” points to a random corner and everybody in it is out.

## II. Opening Tech Circle: Intro to Conditionals

- Reflect on the four corners game. If your corner was pointed to, you were out. In order to determine if you were safe or out, you had to check where the person in the center was pointing. This is called a **conditional**.
- Explain to children that conditionals are when one thing has to happen before the next things can happen.

## III. KIBO Time: If and End If &amp; Free Play

- Introduce to children the If and End If Blocks. Explain to children that If statements allow KIBO to make a choice based on what it can sense (e.g., light, dark, near, far).
- Similar to Repeat and End Repeat Blocks, If and End If Blocks are like the front and back covers of a book. Or the bread of a sandwich. KIBO will only follow instructions that are inside the sandwich AND if KIBO detects it is light in a room, or if it is near another object, as two examples.
- In groups, children will create programs using the the If and End If blocks, along with the Distance and Light Sensors.

## IV. Closing Tech Circle: Sharing Our Programs

- Children share their programs from the free play time. Prompt children to talk about how they used the new blocks in their programs (If and End If).

Vocabulary:

Conditional

KIBO Blocks:

If Block

End If Block