

**Lesson 4:
Step by Step**

Lesson 4 Overview: In Lesson 4, children will learn what an algorithm is, including examples of algorithms in everyday life, and understand the importance of order in algorithms.

Powerful Ideas from Computer Science: Representation, Algorithms, Hardware/Software, Debugging
Powerful Ideas from Literacy: Sequencing, Editing and Audience Awareness

I. Warm Up: A Pizza Recipe

- Tell children to imagine they are making a pizza. Have children correctly order the steps needed to make a pizza. Re-order the steps and ask what would happen.

II. Opening Tech Circle: Intro to Algorithms

- Explain that algorithms are a sequence of steps in the right order. Go over everyday examples with children, such as brushing your teeth, or putting on putting on socks and shoes.

III. Unplugged Time: Program the Teacher

- The teacher will now be the computer and children will get to program them! Children will be responsible for verbally directing their teacher to special destinations in the classroom (e.g., to a bookcase or a closet) or doing a task (e.g., making a sandwich).
- The instructions the children give to the teacher must be specific, or the teacher can misinterpret the directions.

IV. KIBO Time: Order Matters

- Discuss how the Begin and End blocks can only be at the start and end of a program.
- Show children two programs and ask them what they will do differently. Remind children of the importance of order in programming,

V. Word Time: How-to-Book Design Journal

- In their Design Journal, have children write or draw the steps for making a pizza.

VI. Closing Tech Circle: Design Journal Share

- Have children share the instructions they created for making a pizza.

Vocabulary:

Algorithm
Order

KIBO Blocks:

Begin Block
End Block