

Unplugged Math – Distance

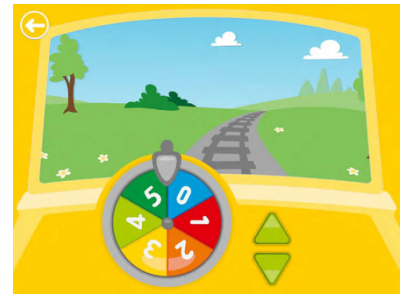
In this lesson students will understand how to measure distance, be able to compare distances, and be able to do simple math.

STEM, Creative Exploration, Social Emotional Development, Early Math and Science

PreK-K

30-45 min.

Advanced



Engage

- Talk to students about distance.
- Ask questions like:
 - How did you get to school today?
 - Why do you think some people walk or bike while others take the bus?
 - Would you like to play a game?
- Choose two or three spots around the classroom to be "train stops."
- Name the stops.
- Ask the students to walk from one stop to the next and count how many steps they've walked.
- Compare the number of steps between each of the stops.
- Talk about which distance is longer and why.

Explore

- Have students pick building cards and work together to build the models shown (three models are suggested).
- Ask them to build a double-ended track and place their models alongside it.
- Place the red brick at a random place on the track.
- Designate a starting spot for the train and have students estimate how many 1x1 LEGO® DUPLO® bricks the train moves.
- Have students test their estimation and measure.
- Repeat the activity by placing the brick in a different location on the track.

KEY OBJECTIVES

Students will

- Understand how to measure distance using non-standard units
- Be able to compare distances
- Be able to do simple math

STANDARDS

The Coding Express lessons have been developed using the K–12 Standards from the Computer Science Teachers Association and Common Core State Standards. They also support the science, math, and technology guidelines from the National Association for the Education of Young Children (NAEYC), the 21st Century Early Learning framework (P21) and Head Start Early Learning Outcomes Framework.

The learning goals listed at the end of each lesson can be used to determine whether each student is developing the relevant skills. These bullet points target specific skills or pieces of information that are practiced or presented during each lesson.

THINGS YOU'LL NEED

- Coding Express set (45025)
- [Teacher Introduction and Learning Grid](#)

Action brick colors on the model cards have no relevance to the unplugged lesson.

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Explain

- Talk to students about distance.
- Ask questions like:
 - Why do people use different vehicles like bikes, cars, and airplanes?
 - When do people take airplanes or buses?
 - When do they walk or bike?

Elaborate

- Encourage students to build more stops and decide the distance between them.
- Ask questions like:
 - Which distance is the shortest/longest between the stops and how long is it?
 - Can you describe the path of the train's journey? (e.g., it started from..., stopped or passed..., and ended at...)

Evaluate

Evaluate the students' skills development by observing if they can:

- Count using number names, and begin to recognize the number of objects in a set
- Correctly sequence events
- Begin to understand and use standard and nonstandard forms of measurement
- Design and express ideas using digital tools and technology
- Use strategies and plan in order to solve problems
- Make predictions
- Identify cause and effect relationships

More Ideas

- Use this lesson's format to work with longer distances.
- Challenge students to use both red action bricks and add the distances.
- Challenge students to use both the green and red action bricks to make the train move a distance, stop, reverse and then stop again to explore subtraction.

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