Loopy Shapes

ELA and Math Activity for CS Fundamentals

Code.org Lesson: [1st Grade] Course B: Drawing Gardens with Loops

Plugged/Unplugged: Plugged

Estimated Activity Length: ~ 30-45 minutes

Brief Description: Working with a partner, students will use loops to program two-dimensional shapes. Students should use collaborative conversations to ask clarifying questions.

Supplies:

- Computer
- Loopy Shapes_Reference Guide
- Loopy Shapes_Reference Guide_Teacher Answer Key

Standards Addressed:

- CCSS.ELA-LITERACY.SL.1.1: Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups.
- CCSS.ELA-LITERACY.SL.1.1.C: Ask questions to clear up any confusion about the topics and texts under discussion.
- CCSS.ELA-LITERACY.SL.1.5: Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
- CCSS.MATH.CONTENT.1.G.A.2: Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

Instructions:

1. Students will pair program to complete Drawing Gardens with Loops, Levels 1-11.
    a. While programming students should participate in collaborative conversations and ask questions to clarify their ideas, thoughts and feelings.

2. At Level 12, students will use the Loopy Shapes_Reference Guide to create the following two-dimensional shapes using code: rectangles, squares, trapezoids and triangles.

3. Students should raise their hand after they have created each shape so the teacher can check their work. Example solutions are listed on the Loopy Shapes_Reference Guide_Teacher Answer Key.
    a. ***Teacher Tip***: *If you are grading this activity, they may want to put a stamp, sticker, initial or image by each shape the students have successfully coded to track progress.*

4. Optional Challenge: Ask students to code a three-dimensional shape such as a cube. This can also be done as whole class instruction.

5. To wrap up, students should complete an Exit Ticket answering the following question:
    a. How did loops help you code your shapes?