Course E

Lesson 9

Fancy Shapes using Nested Loops

Objectives

You will be able to:

- Break complex tasks into smaller repeatable sections.

- Combine simple shapes into complex designs with nested loops.

- Count the number of times an action should be repeated and represent it as a loop.

Warm Up

In this skill-building lesson, you will create intricate designs using the Artist. The lesson ends with an opportunity for you to create their own designs.

PURPOSE

The purpose of this activity is to utilize nested loops as a way to inspire you with artistic minds to see coding as another creative outlet.

This set of puzzles was built to develop critical thinking skills, an understanding of elementary geometry, and creativity -- all within the scope of nested loops!

VOCABULARY

Loop - The action of doing something over and over again.

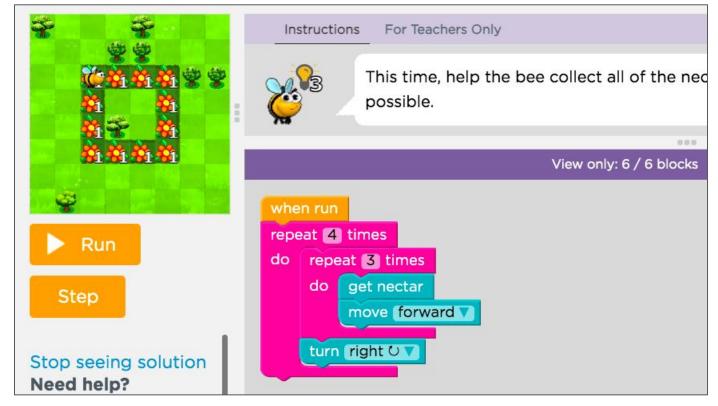**Repeat** - To do something again.

Let's review together, what a nested loop is by programming level 5 in the "Nested Loops in Maze" lesson from Course D.

Here's the solution for level 5 from the "Nested Loops in Maze" lesson from Course D.

- How did you feel about nested loops you explored in lesson 8?

- What did they like and dislike about them?

- What are some advantages of using nested loops?

You will be using nested loops again and making amazing projects today!

Activity

Fancy Shapes Using Nested Loops

- This may not be an easy topic for the majority of you.

- Work with a partner and discuss potential solutions to the puzzles. Using this strategy might ease the your mind.

- Use paper and pencils to write out their plan before coding.

- Some puzzles have a limit on the number of certain blocks, so paper can be helpful if you prefer to write out the long answer before searching for repeating patterns.

Wrap Up

Reflect

DIRECTIONS: Visit our Grade 4: Code.org Course E Lesson Reflections Padlet (posted on Google Classroom) and answer the question below.

- What was today's lesson about?

- How did you feel during today's lesson?

- Draw something you used nested loops to make.

- How do nested loops help you code complex images?