21

Course 3 | Lesson 21

Artist: Patterns

Lesson time: 30 Minutes

LESSON OVERVIEW

Students use the Artist environment to explore nested loops that draw complex patterns.

TEACHING SUMMARY

Getting Started

Introduction

Activity: Artist: Patterns

Artist: Patterns

Extended Learning

Extension Activities

LESSON OBJECTIVES

Students will:

- Count the number of times an action should be repeated and represent it as a loop
- Divide the number of degrees in a circle into even segments
- Given a number of segments, calculate the degrees need to complete a circle
- Break complex tasks into smaller repeatable sections
- Combine simple shapes into complex designs with nested loops
- Compose complex patterns from multiple nested loops

GETTING STARTED

Introduction

In this stage, students will explore how nesting loops several levels deep can allow them to create complex and beautiful repeating patterns. There are no assessments at the end of this stage, it is a final challenge to encourage students to push themselves.

ACTIVITY

Artist: Patterns

EXTENDED LEARNING

Use these activities to enhance student learning. They can be used as outside of class activities or other enrichment.

Paper Pattern Building

Pair students, and assign each pair a basic geometric shape to examine. For that shape, they will do the following:

- Write instructions to draw that shape using a loop
- Write instructions to draw a row of that shape by repeating the previous loop
- Write instructions to draw a complex pattern by repeating the previous loop
- Use those instructions to walk another student through drawing that same pattern