

# Lesson 16: Asphalt Art Project – Day 1

45 minutes

## Overview

**What do I want to represent using programming and art?**

For this project, students use the skills they have developed to create asphalt art in The Neighborhood. Students choose a theme or concept for their asphalt art that represents something they are interested in or meaningful to them. After brainstorming and planning, students develop their programs to create their designs.

## Agenda

**Project Setup**

**Warm Up (10 minutes)**

**Asphalt Art Projects**

**Activity (30 minutes)**

**Brainstorming and Planning  
Development**

**Wrap Up (5 minutes)**

**Planning Reflection  
Assessment (Optional)**

## Objectives

Students will be able to:

- Design a class to extend an existing class and implement a new method
- Plan a project to meet specifications

## Preparation

- Review project setup, requirements, and rubric
- Print copies of the Asphalt Art Project Planning Guide handout (one for each student)
- Check the **Teacher's Lounge** for verified teachers on the CSA Forum to find additional strategies or resources shared by fellow teachers

## Links

**Heads Up!** Please make a copy of any documents you plan to share with students.

For the students

- **Asphalt Art Project Planning Guide** - Handout
- **Unity and Safety Through Street Art in Norfolk, VA** - Video

## Teaching Guide

### Project Setup

The unit assessment project assesses proficiency in the knowledge and skills developed in this unit. It is

completed in three class periods to plan and create the program, including writing a new subclass that extends `PainterPlus` with a new method. Students participate in planning and feedback activities to solve problems, reinforce software development practices and self-image as software engineers, and improve their programs. Lessons 16, 17, and 18 collectively include instructions for the three-day project.

If there is not enough time for the three-day project, a one-day option achieves the targeted learning objectives and goals. If using this option, refer to the **Asphalt Art Project 1 Day Lesson Plan**, which includes a one-day version of the **Asphalt Art Project Planning Guide**. Direct students to develop their program on Lesson 18 to submit their project. While the one-day option covers the learning objectives and goals, it shortens planning and reflection time. Consider this tradeoff when deciding which version to use.


## Warm Up (10 minutes)


### Asphalt Art Projects

#### Remarks

Asphalt art brightens communities, improves public safety, and inspires residents and visitors. Each project has a unique approach to revitalizing streets and parks and bringing communities together.

 **Do This:** Show the video – *Unity and Safety Through Street Art in Norfolk, VA*.

 **Do This:** Show the examples of asphalt art.

 **Discuss:** *What does this make you wonder about how you could create art in The Neighborhood?*


**Discussion Goal:** Students talk about using their `PainterPlus`, `PatternPainter`, and `BackgroundPainter` classes to create asphalt art in The Neighborhood. Students present ideas of additional subclasses of `PainterPlus` they could create for elements in an asphalt art design because of limitations of the existing classes or to simplify complex components.


## Activity (30 minutes)


### Brainstorming and Planning (15 minutes)

#### Remarks

Over the next few days, you will be developing a program to create asphalt art in The Neighborhood. You will need to use what you have created in this unit and create a new type of `Painter` to make your design.

 **Distribute:** Give each student a copy of the Asphalt Art Project Planning Guide.

 **Do This:** As a class, read through the Project Description on the first page of the Asphalt Art Project Planning Guide and review the rubric on the last page.


 **Discuss:** Click through the animated slide to display the prompts. Use the Hold That Thought strategy to discuss the prompts.

- *What do you notice about the project requirements and rubric?*
- *What does success look like for this project?*
- *What barriers do you anticipate to achieving success on this project?*

**Discussion Goal:** Students share what they notice about the project requirements and rubric and identify the components to implement in their program. Students share any questions they have about the project.

### *Remarks*

Before you begin writing your program, you first need to decide what you will create so you can plan your new subclass and methods to create your design.

 **Do This:** Direct students to sketch their asphalt art design, create a UML diagram for their new class, and write pseudocode for its methods to plan their project on the Asphalt Art Project Planning Guide.

#### Teaching Tip

Emphasize that the asphalt art design should be simple enough to create in the given timeframe while being complex enough to utilize the classes students have developed and highlight the need for a new class.

## Development (15 minutes)


 **Do This:** Direct students to Level 1 on Code Studio to develop their Asphalt Art Project.

 1

**Asphalt Art Project**

### *Remarks*

This is a good time to commit our code and save our new subclass to the Backpack. Anytime we make changes to our programs, it is helpful to commit, or save, our work as a new version in case we need to revert to a previous version.


 **Do This:** Play the music clip to cue committing their code and saving their new subclass to the Backpack.

## Wrap Up (5 minutes)

### Planning Reflection

### *Remarks*

You made a lot of progress on your project today! Let's take a moment to reflect on what you have accomplished so far and what you need to focus on next.

 **Do This:** Direct students to respond to the Day 1 Reflection prompt on the Asphalt Art Project Planning Guide.

#### Teaching Tip

If time permits, have students share their thoughts and ideas with a neighbor.

---

## Assessment (Optional)

**Asphalt Art Project Planning Guide:** You can use the Day 1 Reflection as an optional completion assessment.



This curriculum is available under a  
Creative Commons License (CC BY-NC-SA 4.0).

If you are interested in licensing Code.org materials for commercial purposes **contact us**.