

“Extending the CTE-STEM Pipeline into Middle Schools”

Design for Change with P5.js

Solutionary Phase	Fundamentals
Lesson # and title	Lesson 4: Artists Who Design for Change
Duration	45 minutes
Purpose	Students investigate how artists use design to inspire change. Students also learn about the requirements for completing the final design project.
Outcome	Students use a design template starter project to create a t-shirt design.

Lesson Overview

In this lesson, teachers will introduce the final design project where students are asked to complete a design challenge to create an artifact that promotes the solution to an important environmental problem in their community or the world. Teachers will work with students to investigate how the design templates work and how students can manipulate them to create new and personally meaningful design solutions to an environmental problem. Students will be introduced to different artists from a variety of backgrounds. Students will be asked to choose one of the artists to investigate. Finally, students use the T-Shirt Design Template to complete a design challenge and a self-assessment rubric.

Learning Objectives

- Reflect on the previous lesson’s challenge problem to create an ice cream cone design.
- Explore the work of artists who design for change using different mediums.

- Learn about the Design Templates for the final project.
- Use PPC to explore one of the Design Templates.
- Complete a challenge problem to create a t-shirt design.

Content Standard(s)

CA NGSS, EP&Cs, CCSS-ELA, CCSS-Math, EP&Cs, History/Social Studies, Visual and Performing Arts, Computer Science, Health, CTE, PE
Insert the standards' codes and language verbatim

CS Standards:

2-AP-15. Seek and incorporate feedback from team members and users to refine a solution that meets user needs.

2-AP-16. Incorporate existing code, media, and libraries into original programs, and give attribution.

College and Career Connection(s)

This lesson allows students to explore how artists in different fields can use design to create change in society.

Equipment, Instructional Resources, and Materials

- Computer with projector (teacher)
- Access to digital curriculum resources (teacher)
- Computers (one per student)

- Internet access

Suggested Student Grouping

It's recommended that students work in pairs through parallel programming, where two students sit side-by-side and complete tasks on their own, but they share ideas, discoveries and questions with each other. This lesson can also be completed with students working independently. Group work (3 or more) is not recommended for this lesson.

Vocabulary

Template - a pattern, model, or guide for the creation of a project.

Medium - the different materials or supplies that an artist uses to create a work of art. Example: painters might use different types of paint (oil, acrylic, watercolor, etc.) on different kinds of surfaces (canvas, wood, paper, etc.).

The Lesson

Preparation

For this lesson, teachers should review the lesson slide show and watch videos included with Lesson 4 which cover the lesson topics. Teachers should familiarize themselves with the different artists highlighted in this lesson, and review the [T-shirt Design Template](#). Teachers should have a computer with an internet connection and a device for projecting the computer screen for students to see.

Lesson Procedure

Link to Lesson Slide Deck: [Lesson 4 Slide Deck](#)

Activity/Task	Description	Time (min)
Exploration: Share your Ice Cream Cone Design	Students do a think-pair-share with the previous lesson's challenge problem. Students receive feedback on their ice cream cone designs.	10-15 min
Lesson: Introduce the Final Project	Students learn about the final project for the unit and the design template they'll be using to complete their projects.	10-15 min
Exploration: Artists who design for change	Students learn about different artists who design for change. Students choose one of the artists' videos and complete a slide with questions about the artist.	10-15 min
Exploration: PPC Design Template	Students do parts, purposes and complexities thinking routine one of the design templates available for the final project.	10-15 min
Challenge: T-shirt Design	Students use the T-Shirt Design Template to create a design and complete a self-assessment rubric .	10-15 min plus homework

Additional Lesson: Add emojis in P5.js mini-lesson.	The teacher can share an additional slideshow with instructions for adding emojis to a P5.js project.	5-10 min
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Assessment

Please insert the relevant assessment, including if this is done synchronously, asynchronously or as a homework assignment.

- Students submit a slide and/or handout answering questions about one of the artists who designs for change.
- Students will submit a completed PPC slide and/or handout for the T-Shirt Design Template in class.
- Students will submit a completed design challenge using the T-Shirt Design Template as a homework assignment.
- Students will submit a slide and/or handout for [a self-assessment rubric](#) for the T-Shirt design challenge.