



Challenge # 1 Energy Conservation & Pollution

Essential Question: What is pollution and how does it affect me?

"Beauty is in the eye of the beholder." This famous saying essentially means that beauty can mean different things to different people. In this challenge, you will look to find the beauty in your neighborhood. Each neighborhood in Fresno has obvious beauty in it and areas that will become beautiful with a little work.

Every neighborhood has something beautiful to look at; something that catches the eye every time you see it. What in your neighborhood do you find beautiful? It might be a home, landmark, a street, someone's yard, an open space, or different types of trees and plants.

(4th - 6th)

Provided Resources

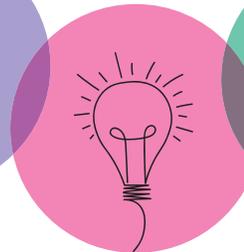
Student Submissions

EMPATHIZE



DEFINE

IDEATE



PROTOTYPE

TEST



Challenge:

Design solutions to make your neighborhood as beautiful as it can be.

Directions

To complete the project, work your way through the columns below. Start in the first column and complete all the tasks in order. When complete, move on to the next column and repeat until you are done!

- On top of the table is a visual aid to help you pace through the project. The project is designed to take place over 4 weeks, but you may work at your own pace.
- Each Column Header aligns with a phase of the Design Thinking Process
- The Activities column contain the tasks that build up to the final project. This column might also include information about the phase.
- Click the link that says, "PROVIDED RESOURCES" for resources available to help you.





START

Week 1
October 12th–16th



Week 2
October 19th–23rd



Week 3
October 26th–30th



Week 4
November 2nd–6th



FINISH



Empathy (Getting many perspectives)

EMPATHY means to understand how someone else thinks or feels even if I have not had the same experience as the other person has.

Example: If your friend hurts themselves playing soccer, you probably feel sorry for them even though you did not get hurt. The emotion of feeling sorry or sad shows that you have empathy towards your friend.

Empathy is very important when we want to design the best solution, because the more brains you have working on a problem, the better! Also, you would want to make sure you have your neighbors' ideas. Working together like this, sharing ideas and opinions is called collaborating.

Task:
Conduct an empathy interview. Try to your best to get as many people's opinions on your neighborhood. The best empathy interviews include diverse (many different) people. Ask people of different ages and cultures along with both males and females. Write down their answers, even if their ideas are different than yours or if you disagree with them.

On the Resources Page for Empathy:
Empathy Interview Questions

Define (Define the problem)

To be able to start the process of finding a solution, we must first **DEFINE** the problem.

Answer these questions to help begin your thinking:

Why are some areas in your neighborhood more beautiful than others?

What are people (homeowners, city officials, neighbors, community members) doing to maintain the beautiful areas in your neighborhood?

Task:
Create a list of possible solutions you would like to explore in your neighborhood

Think:
What are some solutions for people (homeowners, city officials, neighbors, and community members) to increase the number of beautiful areas in your neighborhood?

Now choose one or two areas (a home, landmark, a street, someone's yard, an open space, or different types of trees and plants, etc.) of your neighborhood you find beautiful to begin developing solutions to make other areas beautiful like those.

Ideation (Brainstorm as many ideas as you can)

IDEATION is the process of coming up with IDEAS. In this phase you will begin to explore new solutions to make your entire neighborhood beautiful.

Think: What do areas that I find beautiful and areas that need some help have in common and how are they different?

On the Resources Page for Ideation:
Complete the Compare and Contrast Graphic Organizer to help organize your thoughts.

Let's Learn!
How might pollution be affecting your neighborhood? Thinking about this question may help you DEFINE the problem even more and to help DESIGN your solution even better!

Check the Resources Page to learn more about each type of pollution below:

Air Pollution
Visual Pollution (trash, graffiti, signs)
Noise Pollution
Water Pollution

Question: Is your potential solution to beautify your neighborhood have anything to do with pollution?
If yes, explain how types of pollution affect you (Essential Question)

You can accomplish this in a few ways:
• Create a few sketches of places that you find beautiful or parts that need to be improved.
• Find pictures on the computer or in a magazine/newspaper that represent the challenge and your solution.

Feedback
Seek other's opinions on your solution(s). These could be adults and other students.

Prototype (Building a model of your solution)

A **PROTOTYPE** is a model of a possible solution to the problem identified in the

DEFINE section. A prototype could be a drawing, diagram, 3-dimensional model, etc.

We are going to begin to build our prototype

With each of the parts you began in the IDEATION phase before, you will now create your informational graphic.

- Tasks:**
1. Begin by creating a quick sketch of a template on an 8.5"x11" sheet of paper (turned landscape- long side on top/bottom). The template needs to include a place for your Goal (3-5 words), Haiku, Narrative/Song/Rap, and Pictures (either cutouts or drawings).
 2. You will now expand to 11"x17" (you could use 2 pieces of regular paper taped together to create an 11"x17" paper)

On the Resources Page for Prototype:
• Example: Template for Informational Graphic
• Videos: Creating a Thumbnail
• Example: Finalized Information Graphic
• Videos for your Informational Graphic

Test/Present [Test how well your Prototype works Tell us about it!]

Task:
Prepare for your presentation. You will present your possible solution to the

On the Resources Page for Test/Present:

- Criteria for Success for the Presentation

Items to be submitted

- A picture of your information graphic that includes the 4 tasks from IDEATION (title, haiku/poem, narrative/song, and your graphics).
- A video of your presentation.

Student Submissions