

Hot in here!

Overview

Your teacher has just created a new seating chart, and your section of the classroom gets really hot in the afternoons. Students will demonstrate their understanding of the relationship between the sun's heat energy and the temperature of the classroom.

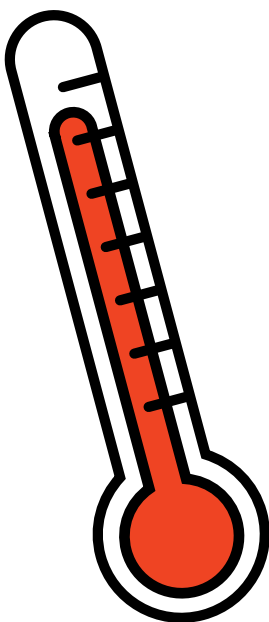
Scenario

Your teacher has just created a new seating chart, and your desk is next to two large windows. You've noticed that on sunny afternoons your section of the classroom gets really hot. Your teacher won't assign a new seating chart, so you will need to devise a solution to protect your section of the classroom!

Driving questions

The driving questions were developed to encourage you to explore the current realities of communities and individuals to be served. The questions will aid you in developing empathy to understand how others might be feeling about a problem, circumstance, or situation.

1. What effects does the sun have on internal and external temperatures?
2. What are the different ways in which solar energy can be used?
3. How can shade reduce the temperature of the area?
4. What types of shade structures are you familiar with?
5. How can a building be designed to reduce the effects of sunlight?
6. How can a building be designed to make better use of the sunlight?

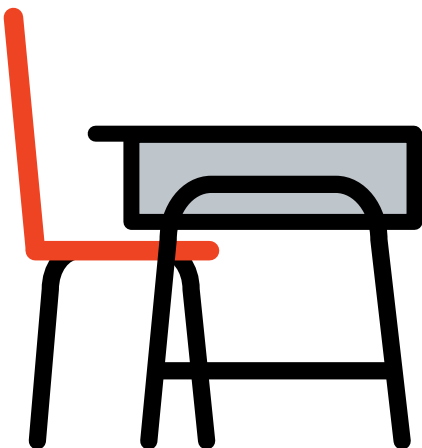


Understanding,
Research, Define,
and Ideation
(U-RDI)

Understanding

Understanding is the process of gathering information to inform what you need to know about a topic. The use of a graphic organizer can help you analyze two aspects of a problem. We are suggesting a T-Chart to explore your “know” and “need to know”.

Know	Need to know
<ul style="list-style-type: none"> • Your teacher has just created a new seating chart. • Your new desk is located next to two large windows. • You’ve noticed that on sunny afternoons your new section of the classroom gets really hot. • Your teacher will not assign a new seating chart. • You will need to devise a solution to protect your section of the classroom. 	



Research

Research is the process of examining as much data as possible to have an informed idea for your problem.

Problem specific resources

- [AIA - Designing for Equitable Communities](#)
- [10 Key Components for Building Healthy, Equitable Communities](#)
- [EPA - Creating Equitable, Healthy, and Sustainable Communities](#)
- [Tips for Connecting Learners to their Community](#)
- [The 7 Universal Design Principles](#)
- [Engaging Everyone](#)
- [Designing More Equitable Cities](#)
- [Simple Machines Article](#)

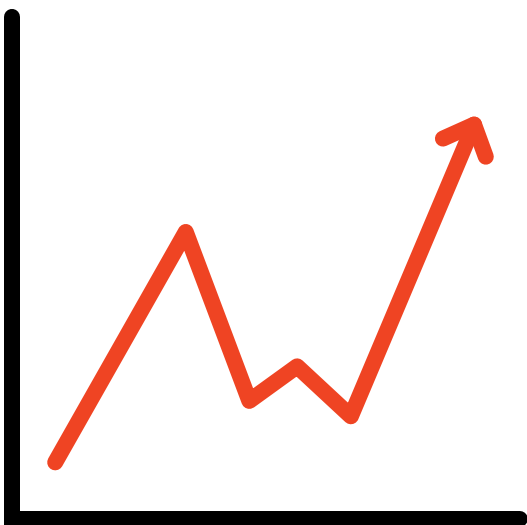
Hands-on activity

- [Simple Machines Activities](#)

Define your problem using empathy

Architects work to define problems before coming up with a solution. They use empathy in defining a problem. This allows them to define a problem using multiple perspectives.

Now that your research is done, define your problem!





Ideation

During ideation you will develop as many possible solutions as possible to the problem base on your defined problem. Do not limit your solutions!

Once you have listed all your possible solutions in the box below, cross out those that are extreme or refine them to be more practical.

Possible solutions: