

Holding on through the hurricane

Overview

As a member of the Architectural Safety Assessment Program, you have been deployed to the East Coast where powerful hurricanes have ravaged existing homes. Your task is to create a new housing development that is better prepared to withstand future hurricane activity. Students will demonstrate their understanding of recommended building strategies and materials with the resilience to withstand a hurricane.

Scenario

You are a member of the Architectural Safety Assessment Program team. You have been sent to the East Coast where there have been a series of devastating hurricanes in the past few years. Your team has been tasked with designing a housing development that is built to withstand future hurricanes by determining appropriate building strategies and materials. You will present a model and verbal explanation to the City Council at its next meeting in three weeks. Be prepared!



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.

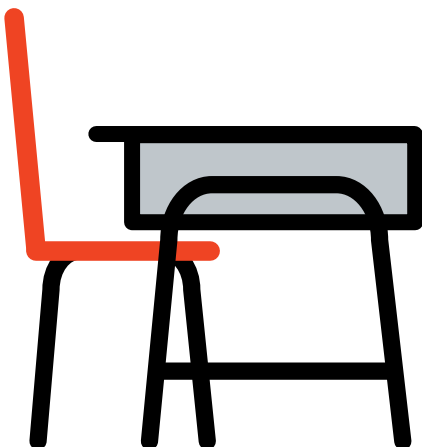
1. How can we reduce the impact of future hurricanes through preparation?
2. What aspects of a hurricane cause damage to structures?
3. What would allow a structure to be resilient in a hurricane?
4. What materials does a housing structure need in order to withstand a hurricane?
5. What can architects do to prepare the homes they are designing for a future hurricane?
6. What human needs are impacted by the effects of a hurricane?
7. How do hurricanes change the landscape of an area?
8. How has climate change affected the frequency and intensity of hurricanes?

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"> • You are a member of the Architectural Safety Assessment Program team. • You have been sent to the East Coast. • The East Coast has had a series of devastating hurricanes the past few years. • Your team has been tasked with designing a housing development that is prepared for future hurricane activity. • Your team needs to determine which strategies and materials can help a housing development withstand the next big hurricane. • Your team will present a model and verbal explanation to the City Council at its next meeting in three weeks. 	



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](#)

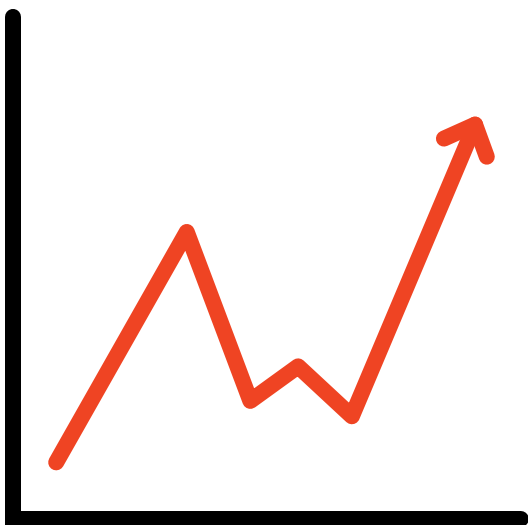
Hands-on activity

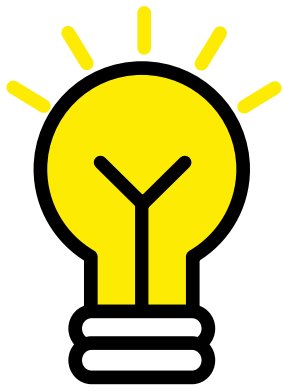
- [Simple Machines Activities](#)

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: