

Earthquake Building Design



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Subject: Science
Standard: MS-ETS1-4

Other

Hook

Students will...

During informational writing, students researched and wrote an essay about natural disasters that have occurred in the world in the last five years.

Students also watched a video of a real earthquake shake table used by researchers in California to test building designs. Explain to students we are going to be doing the same thing with the earthquake design. We live in an area that is earthquake prone, so the activity was also connected to real world applications.

Video Link:

<https://www.youtube.com/watch?v=duzcOkzwpDo>

Read

Inform

Students will read...

Students read in student workbook from Hand 2 Mind about earthquakes and locations around the world where earthquakes are more frequent. Students also read about the different technologies used in real world buildings.

Students build the basic four story building in order to create a more earthquake resistant building.

Do Groupwork

Practice

In groups, students will...

Students will work in cooperative learning groups to jigsaw the different types of earthquake technologies in order to gain information to be used to create the best model of an earthquake resistant building. Each group will build their assigned technology and test it for the class. The class will collect the data to be used when creating their own designs.

Create

Apply

Students will create...

Students will work together in their cooperative learning groups using the data from the class technology tests to create what they believe is the best design of a building to withstand an earthquake. Their buildings need to fit in the constraints and criteria given to them by the kit and modified by the teacher. Kit criteria is 8 seconds to stop shaking, but was modified to 4 seconds to make the challenge more advanced. Students are able to test their buildings multiple times. The group with the best design within the criteria competes with the other classes to see which design/model will be "bought" by the principal and STEM teacher to build.

