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Building with Earthquakes in Mind

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Earthquakes are some of the most elusive and destructive disasters humans interact with on this planet. Engineering structures to withstand earthquake shaking is critical to ensure minimal loss of life and property. However, the majority of buildings today in non-traditional earthquake prone areas are not built to withstand this devastating force. Understanding basic earthquake engineering principles and the effect of limited resources helps students grasp the challenge that lies ahead. The solution can be found in retrofitting existing buildings with proper reinforcements and designs to deal with this deadly disaster.

The students were challenged in this project to construct a basic structure, using limited resources, that could withstand a simulated tremor through the use of an earthquake shake table. Groups of students had to work together to creatively manage their resources and ideas to design the most feasible and realistic type of building. This activity provided a wealth of opportunities for the students to learn more about a type of disaster they do not experience in this part of the country. Due to the fact that most buildings in New York City were not designed to withstand earthquake shaking, the students were able to gain an appreciation for how difficult it would be to prepare every structure in the city for this type of event.