

Grade

5

Up, Up and Away

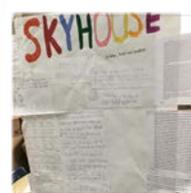
MATH. SOCIAL STUDIES. SCIENCE



Driving Question: How do we deal with the amount of people in Shanghai?

Project Description:

To learn important math content of scale, multiplication and dividing of decimals, and volume; students were challenged to design a skyscraper of the future. The project was launched with a documentary on the vertical city of Shanghai Tower and a visit to the urban planning museum to learn about the history and functions of skyscrapers. Students investigated a skyscraper or tower that interested them and created a blueprint of it. Students learned social studies content connected to the community needs and wants, and designed a skyscraper for the future. In the design process, the students took a trip to the Shanghai Tower itself. They were also challenged to ensure they had a feasible carbon footprint. After drawing out their skyscraper design and approval from their teachers, students built their model of the skyscraper with a variety of materials.



Student Products

- ▶ Investigate and draw a blueprint of a real life skyscraper
- ▶ Design a skyscraper for the future
- ▶ Create a poster presentation including mathematical work and reflection of the project

Teacher Reflection

"In the past, they built a replica of an existing skyscraper, and there was a focus on scale. This is the first year with volume as the focus. We made the change to volume this year to make sure it fit the Common Core standards. We need to focus to not focus on volume. The more students thought about volume, they started to make nets. Instead of making pieces, they were thinking in nets (walls, lids, etc). They played around with the best way to create the shapes. It made it more difficult, as they had to find the volume of a variety of many 3D shapes. Instead of telling them how to find the volume, they were able to discover it. They had to constantly prove their thinking. They love this project. They are using on fine motor skills and work together cooperatively. They have to figure out what's the best way to get what needs to get done in a timely matter, and what are the attributes of each person in the group and build their team norms. There was a lot of "fail and do again." They had to reflect on their failures. I noticed that precision was a common trend in their reflections, which is one of our mathematical practices." - Jamie Stevens

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