



**Activity:** Index Towers

**Focus:** STE(A)M

**Materials:** Index Cards, Tape, Blank Paper, Pencil

**Grade Range:** 3rd-6th

**Time:** 25 minutes

**Synopsis:** Students must work collaboratively to tape together index cards to create their own towers. They will start by drawing up their own blueprints of what they plan to build and then will proceed to create the tower. Mentors be sure to join and ask students questions about their towers each step of the way! Once the towers are built, mentors will ask students a variety of questions regarding the activity and then relate this back to STE(A)M.

**Instructions:**

1)Mentors will begin by sectioning off the classroom into groups of 3-4 students.

2)Each group a blank piece of paper. This serves as their “blueprint.” You will tell them that they have 5 minutes to come up with a plan as to how they are going to use the index cards to create a tower. Encourage them to work collaboratively with their classmates and allow mentors to go to groups to see their blueprints.

3)Once the blueprints are done, it’s time to start building. Hand out roughly 30 index cards per group, a roll of tape, and let the students start. Give them roughly 15 minutes to do so.

4)After the time is up, tell students to go back to their seats. Ask them a series of questions such as:

-“When building your tower, what methods/ tricks/ideas worked best for you?”

-“What challenges did you face?”

-“Did drawing out a blueprint for your tower help? Why or why not?”

-“Think about the towers and buildings you have seen. Do you have a favorite one? Why do you like that one?”

5)After you have had a discussion, explain to the students what architecture and engineering is.

Tie this back into the lesson by stating how people in these fields use math and science to design, create, and build the towers we see every day. Relate back to STE(A)M.

·Note: A great example to further students understanding would be The White House. Explain how James Hoban, the architect of The White House, started with a blueprint himself. Show a side by side picture of the blueprint versus the actual White House. Then you can state that African American slaves and European immigrants worked on the construction of The White House. This took 8 years to complete and was made entirely of sandstone.