ENGINEERING FOR EARTHQUAKES

ACTIVITY GUIDE

Activity & Procedure: "Tallest Tower"

1. Explain to participants they have to create the tallest structure possible using uncooked spaghetti and marshmallows.

2. Have participants draw out a design, identifying which shapes and structures they think will allow their tower to go the highest. **Be sure to ask them why!**

3. Have youth begin their construction, and walk around encouraging them to refine their buildings. Help them think through any design challenges.

4. Once finished with construction have the students measure their towers' height, length & width (using the smallest square you could fit the base of your tower in).

5. Calculate the footprint area: Length x width of the footprint. Have participants create a Tallest Tower Chart to input their data.

6. Extension Activity: Have participants calculate the estimated volume their tower could hold. (LxWxH)

Hypothesis Zone

Discussing what youth thought about an activity is a great way to cement learning. Ask the following questions:

- What issues did you consider when designing your structure?
- Which structures held up best? Why?
- Which shapes were the most stable?
- Do you see those shapes anywhere in real buildings?
- What design changes will you consider for your next design?

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Materials List Handout

MATERIAL DESCRIPTION	**QUANTITY** (For 20-30 participants total, 3-4 youth per group)
Spaghetti	5 boxes
Miniature Marshmallows	2-3 large bags
Paper (can be scratch)	5-10 sheets per group
Ruler	1 per group

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ryan@kindus. org

