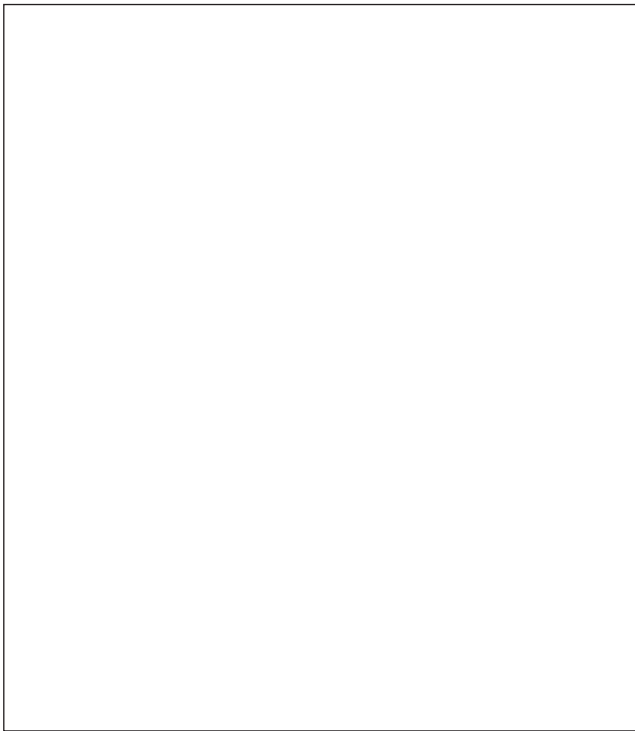


INSTRUCTIONS FOR A PASTA STRUCTURE ACTIVITY

1. Earthquakes occur in intense waves that often strike one after another. Describe the earthquake that your structure will need to withstand. How many waves will it be? How severe will the waves be?

2. Consider how you will construct your building. It must be at least two stories tall. Remember that engineers design buildings so that they will only take only minor damage from an earthquake by relying on concrete with steel rods and a connected steel frame. Think about how you might do the same with pasta and marshmallows.

3. Draw your design for the building.



4. How do you think your building will withstand the earthquake you've described?

5. Construct your building.

6. Simulate the earthquake you described by shaking the foam base. The number of times you shake it equals the number of waves in the earthquake. How hard you shake it equals the severity of the waves. How many waves did your building withstand? What kind of damage did your building take?

7. How could you improve your building?

8. Rebuild your building, adding the improvements you decided on, and repeat the earthquake. Did your improvements work?

9. (OPTIONAL) What else could you use for your building materials? Construct your building again with the new materials and repeat the earthquake. What materials did you use and how did the new building hold up?

