

Name: _____ Date: _____

Shake It Up! Activity Worksheet

Design

In the space below, draw designs for your shake table and model building.

Label all the materials used in your designs and include measurements.

** Remember—you are not required to use all the materials! **

Shake Table Design

(Materials: shoebox, wooden board, 10 marbles, 20 Popsicle sticks, 10 rubber bands, string, hot glue guns and glue sticks, duct tape, masking tape)

Model Building/Structure Design

(Materials: marshmallows and toothpicks only!)

Design Cost

1. A box of toothpicks cost \$_____, and has _____ # of toothpicks in it. The unit cost per toothpick is _____ \$/toothpicks. My design uses _____ toothpicks, which will cost \$_____.
2. A bag of marshmallows cost \$_____, and has _____ # of marshmallows in it. My design uses _____ # of marshmallows, which will cost \$_____.
3. The total cost of my model is \$_____.

Shake Table Testing

1. Which type(s) of seismic wave(s) does your shake table simulate?
 P-waves S-waves Love waves Rayleigh waves
Explain the movements. Explain how it does this.

2. Describe what happens to your building when you test it on your shake table.

Earthquake Challenge

3. How long did your building last through the “earthquake”?
4. Describe what happened to your building while it was going through the “earthquake.”
5. Based on what you noticed from your group and other groups, which designs and strategies worked the best? Draw a sketch below and describe the design.
6. Why do you think this particular type of design worked the best?