

Name:

Date:

Class:

## Pre-Build Worksheet

1. Create a sketch of how you are going to design your building.

### **Constraints:**

*Footprint must be between 15 x 15 cm.*

*Height must be between 36-50 cm.*

*Each story must be between 8-12 cm.*

*Must hold a weight of 2.5 lbs. (1134 g).*

*Mass of the building cannot exceed 300 g.*

*To survive the earthquake test, the building must not collapse for 10 seconds after the earthquake begins.*

### **Materials:**

*Spaghetti noodles (50)*

*Toothpicks (20)*

*Flexible straws (10)*

*Marshmallows (20)*

*\*\*\* Rubber bands (can be used for construction but must be removed before test!)*

*Glue gun (2)*

*Glue sticks (10)*

*Ruler*

*Scissors*

Using your background knowledge, as a group sketch out how you will plan to construct your building. Make sure you label the different types of materials if you choose to use them.

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2. What shape do you think will add the most stability for the building to withstand an earthquake?
  
  
  
  
  
  
  
  
  
3. Where on the building do you think needs the most stability? How are you going to add that stability?