Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Day1 Marshmallow Challenge** Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hour \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:** Build the tallest freestanding structure. The winning team is the one that has the tallest structure measured from the table top surface to the top of the marshmallow. That means the structure cannot be suspended from a higher structure, like a chair or ceiling.

**Rules:**  1. The entire marshmallow needs to be on the top of the structure. Cutting or eating part of the marshmallow disqualifies the team.

* + 1. Use as much or as little of the kit as you want. The team can use as many or as few of the 20 spaghetti sticks, as much of the string or tape. You must use the entire marshmallow.
    2. Break up the spaghetti, string or tape. Teams are free to break the spaghetti, cut up the tape and string to create new structures.
    3. The challenge lasts 18 minutes. Teams cannot hold on to the structure when the time runs out. Those touching or supporting the structure at the end of the exercise will be disqualified.

**Materials:**

Spaghetti (20 sticks) Masking tape (3 feet)

Scissors String (3 feet)

Marshmallow

1. Step 1 of the scientific method is to ask a question? What question are we asking?

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2. Step 2 of the scientific method is to gather information or do some research. What kind of research could you do?

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3. Step 3 of the scientific method to make a hypothesis. State your hypothesis here.

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Step 4 of the scientific method is to test your hypothesis; we will be doing that by following the above directions. When we are finished we will be comparing the classes’ structures to one another. Please use the following table to record your data. (Do not forget to use units)

*Day 1 data*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Group** |  |  |  |  |  |  |  |  |  |
| **Height** |  |  |  |  |  |  |  |  |  |
| **Structure** |  |  |  |  |  |  |  |  |  |

**Day 2**

Yesterday you completed the Marshmallow Challenge without any additional information. Today you will complete the Marshmallow Challenge again but this time you are informed. You and your team have experience building your structure and now will have a change to do it again, only better! The same rules apply.

*Day 2 data*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Group** |  |  |  |  |  |  |  |  |  |
| **Height** |  |  |  |  |  |  |  |  |  |
| **Structure** |  |  |  |  |  |  |  |  |  |

4. Step 4 of the scientific method is to analyze our data. To help us analyze our data please graph your data on the same graph paper you used yesterday. You will create a bar graph that compares Day 1 data to Day 2 data. Your Y axis should be the height while your X axis should be the group names. Please indicate day 1 data by using orange and day 2 data by using blue.

5. Step 5 of the scientific method is to write a conclusion. Please write your conclusion by answering the following questions below after completing day 2.

A. Which group had the tallest structures?

B. Describe or draw a picture of the tallest structure.

C. Why do you think this structure was the tallest?