**LAB #2: Strong ‘and EFFICIENT’ Straws**

Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Class: \_\_\_\_\_\_\_\_\_\_\_

**Objective**:

 - To design an **efficient** straw structure that will support a full cup of water at least 8cm off the table.

**Materials and Cost**:

 Straws 1 straw = $1

 Masking Tape 15cm = $20

 Cup 1 cup = free

**Procedure**:

 1) Plan, design, and budget…

 2) Purchase and record

|  |  |  |
| --- | --- | --- |
| **Material** | **Amount Purchased** | **Total Cost** |
| Straws |  |  |
| Tape |  |  |
|  | **Total Cost** |  |

 3) Build!

 4) Test

 5) Weigh

 Our structure weighed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ grams (with the cup attached).

**Review**:

1a) What ‘type’ of structure did you build? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ How do you know? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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2) Why/How did your structure fail? Explain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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3) Describe, using a diagram, how you could have made your structure more efficient ( = strengthen without adding weight).

4) How efficient was your structure? Circle one.

0=not efficient 1=somewhat efficient 2=efficient 3=very efficient 4=extremely efficient

5) Calculate the quotient…… \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ÷ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (weight in grams) (cost to build)