Spaghetti Noodle Bridge Lab





Today you will conduct a lab investigating the weight capacity of spaghetti noodles when building a spaghetti noodle bridge.

**Materials needed to conduct his lab include:**

Spaghetti noodles (thick, thin, and regular)

Plastic cups

Whole punch

Pipe cleaners

Pennies

Scissors

2 stacks of books ( 16 textbooks in all)

With the following materials students should be able to develop a testable question.

Testable Question: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**What is the independent variable?** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**What is the dependent variable?** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**What is the control group?** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**What are the constants for this experiment?** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Hypothesis**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Procedure:**

**Step 1:** Using the hole punch make two holes on opposite sides of the plastic cup.

**Step 2**: cut he pipe cleaner to about 6 inches.

**Step 3:** Place the pipe cleaner into the hole of the cup forming a handle, twist the pipe cleaner tightly to secure the handle .

**Step 4:** Make two stacks of 8 books in a pile.

**Step 5:** Place the two stacks of books directly opposite of each other making a gap between them.

**Step 6:** Place a penny into the bucket.

**Step 7:** Gently thread the thin noodle through the bucket.

**Step 8:** Gently place the spaghetti noodle and bucket across the two stacks of books .

**Step 9:** If the noodle does not break place one penny at a time into the bucket until the noodle breaks.

**Step 10:** Count the number of pennies in the bucket and record your data.

**Step 11:** Repeat this process two more times with the thin noodles.

**Step 12:** Repeat steps 7 through 11 with the regular and thick noodles.

**Data:**

**Title :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- |
| **Thickness of Spaghetti Noodle**  | **Number of Pennies Held** **T1 T2 T3** | **AVG** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Graph:**

**Title:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Conclusion:**