



Winning Experiment Procedures from the NIH LAB Challenge

Stuffed-Animal Science

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Suggested grade level: Elementary

Background

Scientists make predictions based on data they collect during their experiments. The data can come in various forms. The data must be accurate, and measurements can be taken more than once to ensure their accuracy.

Objective

Students will make predictions about how the weight and size of stuffed animals correlate by taking measurements of the length, weight, and circumference. This experiment is designed to introduce students to measuring techniques and making predictions.

Hypothesis

Students create their own hypotheses. For example: Stuffed animals with longer lengths and greater circumferences will weigh more.

Duration

Total actual in-class time: 30 minutes
Set-up time: 5 minutes
Experiment's run time: 20 minutes
Take-down time: 5 minutes

Materials

- Stuffed animals
- Ruler
- Tape measure
- Kitchen scale

Procedure and Results

The following procedure should be carried out for each stuffed animal.

1. Place the stuffed animal to be measured on a flat surface.
2. Using a ruler or tape measure, measure the length of the stuffed animal (see **Figure 1**) and record the measurement on the data table (**Table 1**).
3. Using a tape measure, measure the circumference of the stuffed animal (see **Figure 2**) and record on the data table.
4. Using a kitchen scale, weigh the stuffed animal (see **Figure 3**) and record on the data table.
5. Repeat Steps 1 through 4 for all stuffed animals.

Figure 1. Measuring the length.



Figure 2. Measuring the circumference.



Figure 3. Weighing using a kitchen scale.



Sample Table 1. Results from an actual stuffed-animal experiment.

Stuffed-animal name	Length	Circumference	Weight
<i>Ringo</i>	<i>21 inches</i>	<i>11 inches</i>	<i>11 ounces</i>
<i>Daddy Cat</i>	<i>10 inches</i>	<i>5 inches</i>	<i>4 ounces</i>
<i>Ringey</i>	<i>18 inches long</i>	<i>12 inches</i>	<i>5 ounces</i>

Data Analysis

After recording the data, students should revisit their hypothesis to see if their prediction was correct. In this example, students should look over the measurements and see whether there is any correlation between the length and circumference and the weight of the stuffed animals.

Conclusions

Students will make their own conclusions on the basis of the data they collected. In this example, they could conclude that based on the data taken from this experiment, the stuffed animals with greater lengths and circumferences weigh more than those stuffed animals with shorter lengths and circumferences.

Note: Not every experiment done with stuffed animals of varying sizes will have the same results.

Relevant OSE Supplement

Open Wide and Trek Inside

[Updated 6/11/12; revised by Carla Easter]

Student Handout: Stuffed-Animal Science

Name: _____

Date: _____

Table 1. Data from stuffed-animal measurements.

Stuffed animal name	Length	Circumference	Weight