**Rebound**

Materials:

Ping pong ball, golf ball, or bouncy ball

Centimeter measuring tape

Graph paper

If you drop a ball from a certain height, each time the ball bounces, the height it rebounds decreases.

1. Copy and complete the table below. From a height A of 2 meters (200 centimeters) drop the ball onto a hard surface and record the height of the first 3 rebounds. Repeat this 5 times, recording your data in the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Height | A | B | C | D |
| Trial | Bounce 0 | Bounce 1 | Bounce 2 | Bounce 3 |
| 1 | 200 cm |  |  |  |
| 2 | 200 cm |  |  |  |
| 3 | 200 cm |  |  |  |
| 4 | 200 cm |  |  |  |
| 5 | 200 cm |  |  |  |
| Mean | 200 cm |  |  |  |

2. Use the data to graph the results. What are the two variables in this situation? What is the dependent variable? What is the independent variable?

3. Describe the graph.

4. Estimate the percent of the previous bounce height that each successive bounce height reaches.

5. Write an equation that shows the relationship between the two quantities. Show and explain your work.