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Name: _____

Date of lab: _____ Due date: _____

❑ 01 ❑ 05
❑ 02 ❑ 06
❑ 03 ❑ 07
❑ 04 ❑ 08

SNC1D **Lab Design: Factors Affecting How Craters Are Formed**

Purpose

In this lab, you will be trying to figure out how certain factors can affect how an object can create a crater by hitting another object. You will be working in groups of 3 students. Each group will design an experiment to determine the effects of one factor on craters.

Materials

- newspaper
- shallow, rectangular pan
- sand
- differently-sized marbles and golf balls
- rulers and measuring tapes

Brainstorm:

Possible Independent Variables (What might affect how craters are formed?)	**Possible Dependent Variables** (What are different ways you can measure a crater?)

Question:
What is the effect of _____ on the _____ ?
choose 1 independent variable *choose 1 dependent variable*

Hypothesis/Prediction:

An increase of _____ will cause
your chosen independent variable

(an) _____ on _____.
increase/decrease/no change *your chosen dependent variable*

Chosen Independent Variable	Chosen Dependent Variable	All Controlled Variables

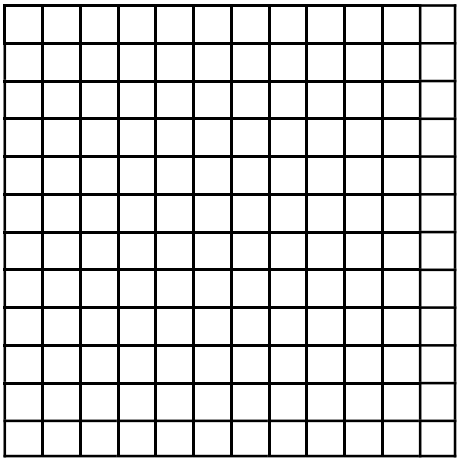
Procedure
Show your procedure in the space below. Make sure you account for all the control variables. Remember that you need at least 3 trials at 5 data points. Label any diagrams and BE SPECIFIC!

Materials list
List all the materials that your procedure requires.

Sources of Error
What are two possible sources of error in this lab, and how will you reduce it?

Safety Procedures:
List all the safety hazards that may be relevant in this lab.

Data: (including qualitative and quantitative observations)
Table



Conclusion
Answer the question. Does your data support or refute your hypothesis?

Error
In science, *error* refers to uncertainty in measurements and observations. What are two sources of error in this lab? How could you make the lab better? (Note: making a mistake is <u>not</u> a source of error.)