Guiding Question: What variables affect size of a crater made my a falling object?

Learning Goal: Design and collect data for a experiment on the gravitational potential energy to make a crater.

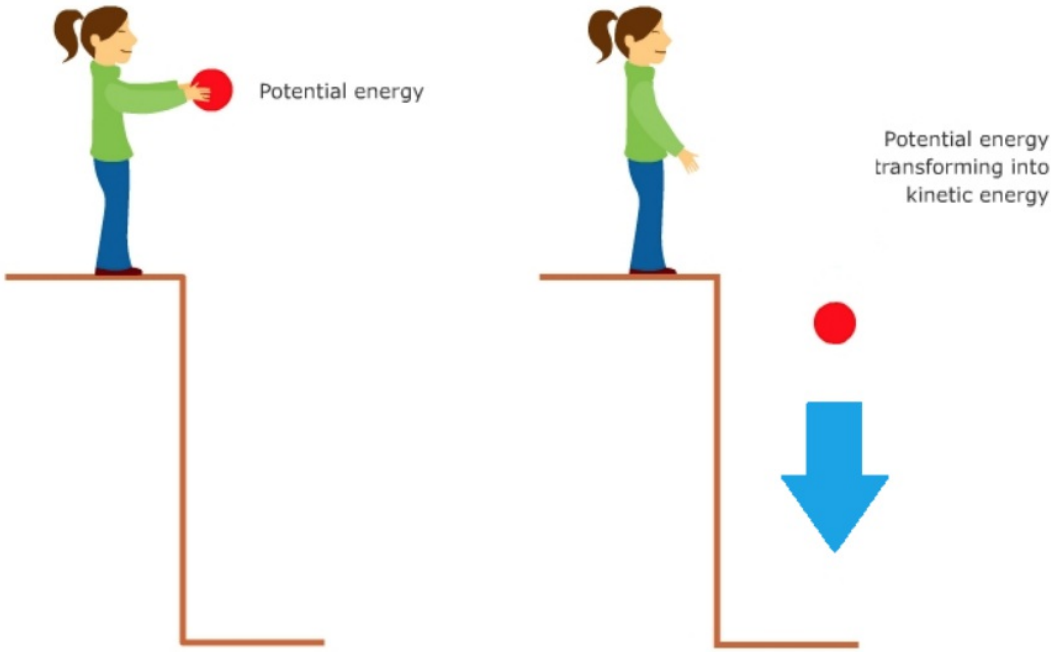
Agenda
1) Daily Science Review-Conservation of energy
2) Introduction to impact craters
3) Impact crater lab design
4) Collect data for impact craters Lab

Word of the day
Gravitational Potential Energy

WOD

Gravitational Potential Energy (GPE)

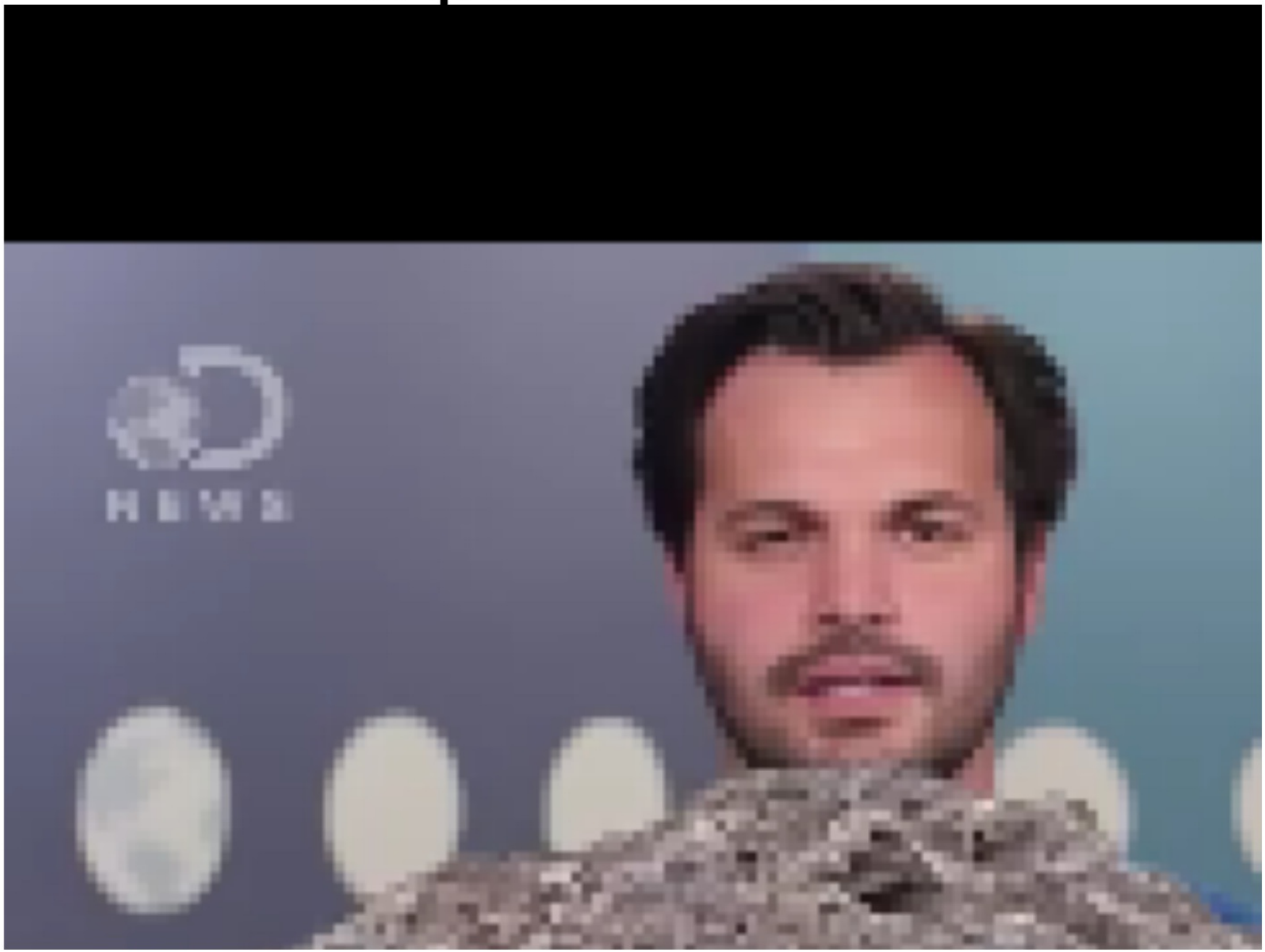
Gravitational potential energy is the energy stored in an object as the result of its vertical position or height.



p.60

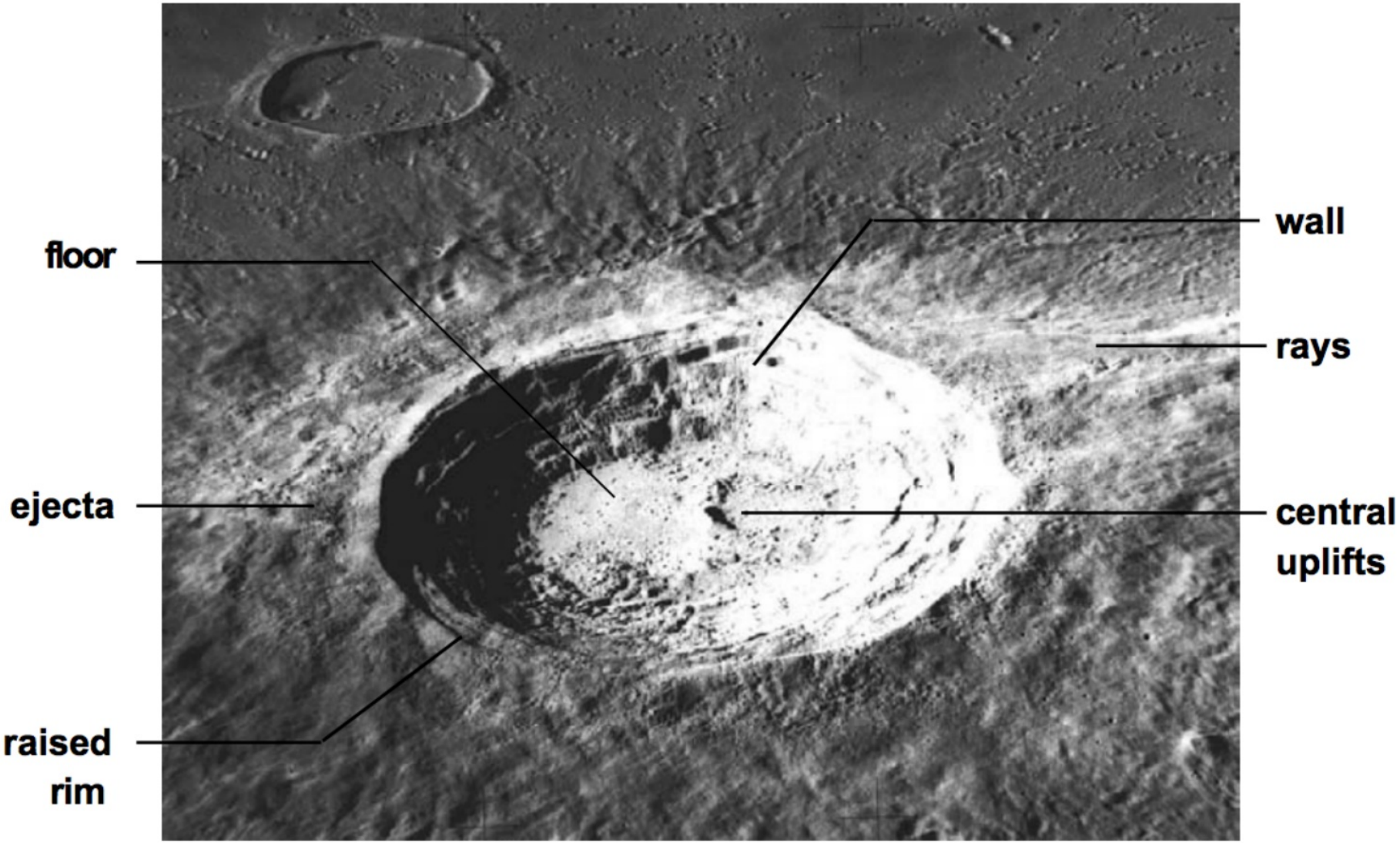
DSR Today

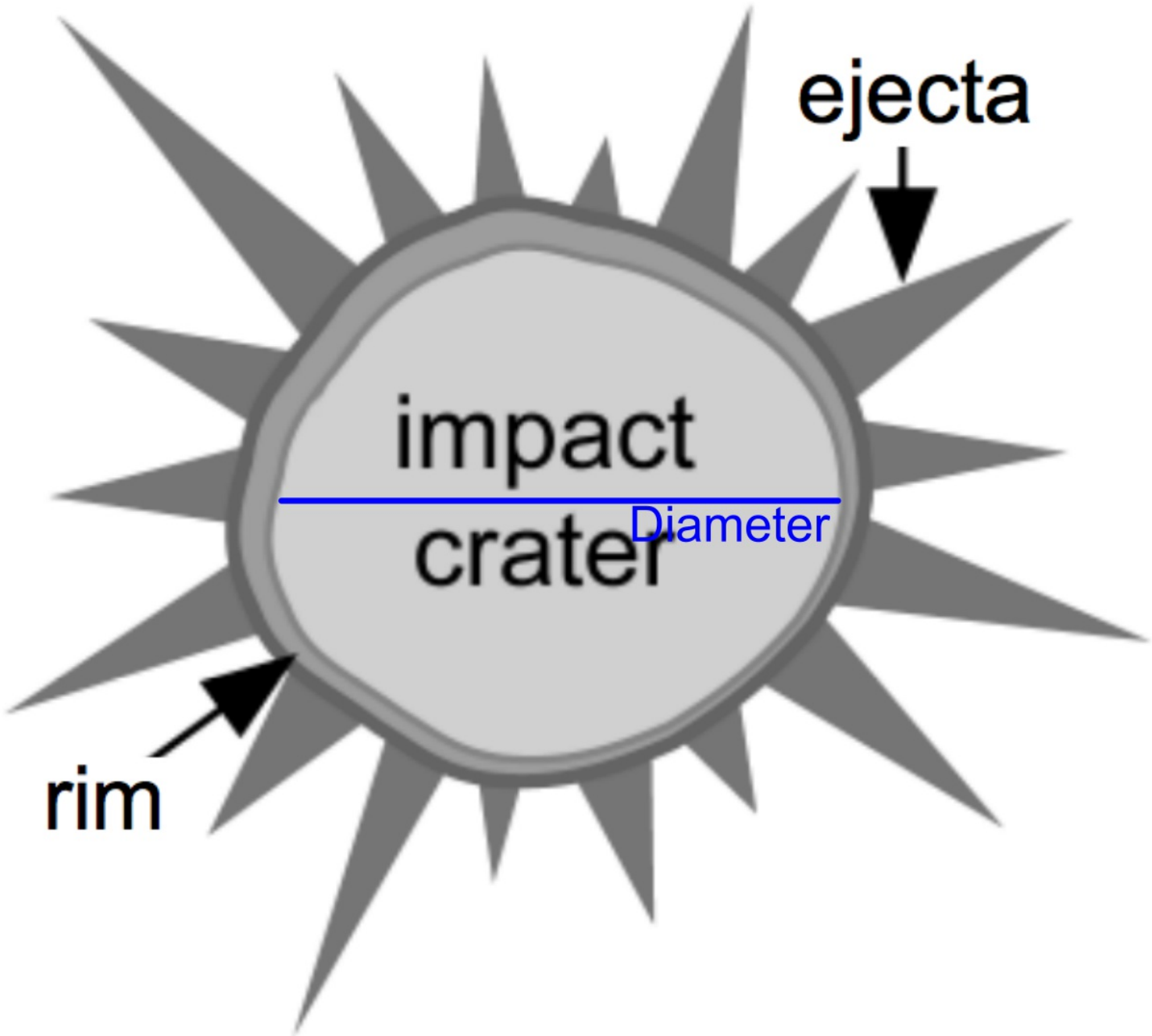
Impact Craters



What factors affect the size of an impact crater?

Parts of an impact crater




ejecta
impact
crater
Diameter
rim

Materials available to model craters.

What independent variables should we test?	What dependent variables should we test?

Craters Lab

1. Variables:
   Independent variable:
   Dependent variable:

2. Testable Question:

3. Hypothesis:
   If_____Then_____Because_____.

4. Materials:
   List all the materials you are going to use

5. Procedure:
   Make a NUMBERED list of the steps you are going to follow (6-8 steps)

Sample data table MAKE THIS YOUR OWN!

6. Data Table

Variable and value of constant Example: Mass of 50g

Write your independent variable here	Diameter of Crater	Height of Crater

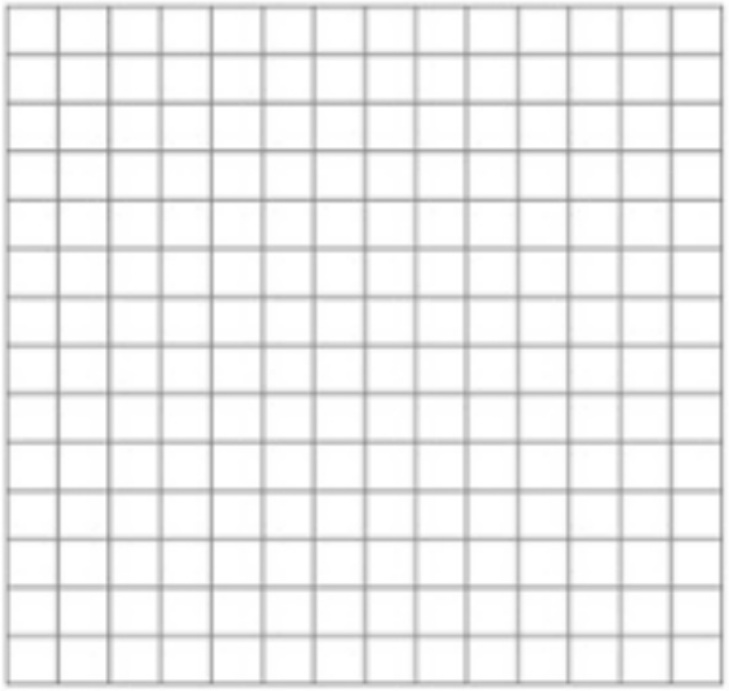
Get approval before you collect data

p. 60 or 61

Make 2 Graphs for your data

Make a scatter plot with a best-fit line.

diameter (cm)



Your independent Variable

depth (cm)

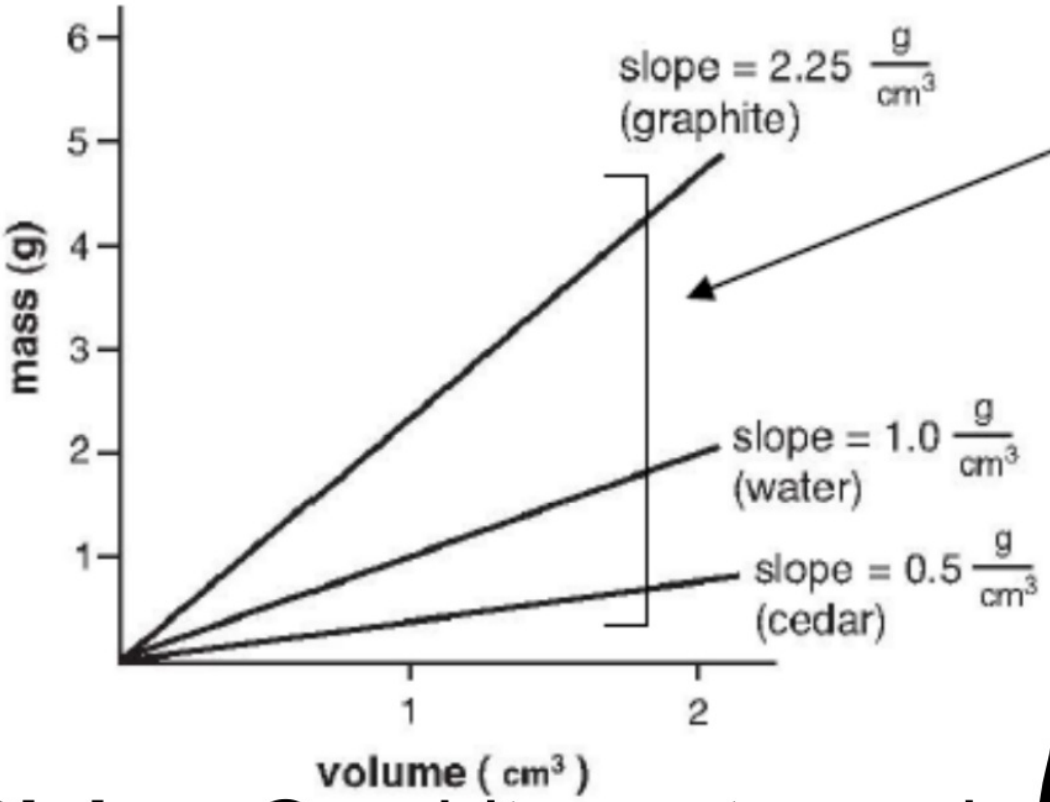
Your independent Variable

p. 60 or 61

7. Conclusion

Claim:

to state the relationships between your independent variable and the dependent variables



What I see:
3 constant positive slopes that are not the same.

What it means:
Each substance has a constant density; graphite is the densest.

Claim: Graphite, water and cedar all of positive slopes but are not the same. Graphite has the highest slope and is the most dense, the water and cedar has the lowest slope.

p. 60 or 61

7. Conclusion

Claim:

to state (facts or "truths") what you find out from your experiment

Evidence:

Writing your support of your claim by summarizing your data/numbers in a way that supports your claim.

Explanation:

Leave 5 lines for now!!! We will work on this later

p. 60 or 61

Errors: What errors where made because of the tools you used or the procedure we had to follow

NOT MISTAKES YOU MADE

Further Investigations:

What do you want to do next time? Explain why you want to do this.

When Done take a picture of your lab in showbie