Name: _____ **Date:** _____

Earth Impact Activity – How Big is That Crater? Worksheet

Experiment 1: Crater Size

1. Predict the size of the crater based on the size of your rock.

   _____

   _____

   _____

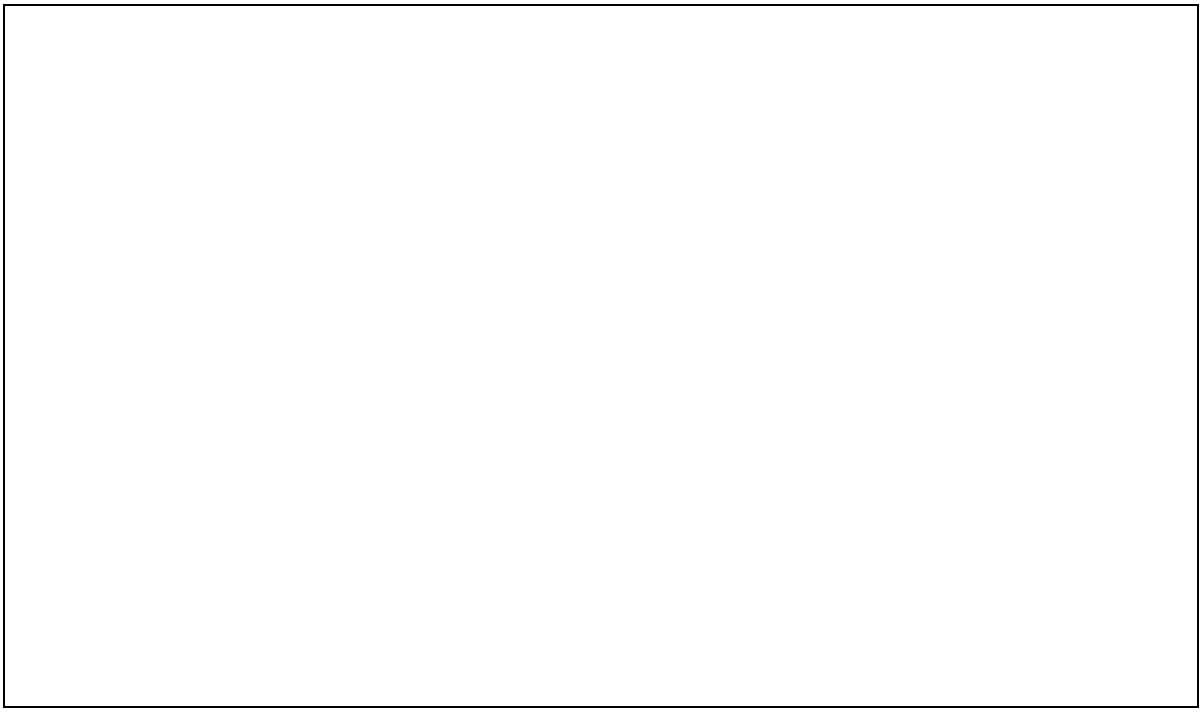
   _____

2. Observe the crater size made by meteoroids (your rock drops) of different sizes. Record your observations in the table below. Once you have recorded three trial drops for each of the 4 objects, average the results per rock.

Rock	Crater diameter	Crater depth	Observations
Rock 1 (diameter = _____)			
Drop1			
Drop 2			
Drop 3			
Average			
Rock 2 (diameter = _____)			
Drop1			
Drop 2			
Drop 3			
Average			
Rock 3 (diameter = _____)			
Drop1			
Drop 2			
Drop 3			
Average			
Rock 4 (diameter = _____)			
Drop1			
Drop 2			
Drop 3			
Average			

Name: _____ **Date:** _____

3. In the space below, make an x-y plot of the average crater diameter versus rock number.



4. Based on the trends that you observed in your data and transferred to your plot, predict the effect on the size of crater should a meteor actually impact the Earth.

_____

_____

_____

_____

Experiment 2: Crater Size Related to Speed of Impact

5. Predict the effect on the size of the crater should you increase the height from which you drop your object.

_____

_____

_____

_____

6. Using a blank table (see next page), format the table to best record your data. (Hint: It should be *similar* to the table in Experiment 1). Show your teacher your formatted data table **before** you begin testing; s/he should sign off on your table. Teacher initials: _____

Name: _____ **Date:** _____

7. Use your findings to make a prediction about what effect the velocity of a meteor would have on a crater it creates once it impacts Earth.

_____

_____

_____

_____

8. Were your predictions correct? If not, why?

_____

_____

_____

_____

Name: _____ **Date:** _____

Designing an Earth Protector

1. In the designated space below, draw a diagram of your Earth Protector, labeling the various components.