Create Impact Craters: DATA ANALYSIS and REFLECTION

1. MASS DATA: What does the data reveal about the relationship between the mass of the projectile and the resulting crater size? *Use your data to support your answer.*

2. VELOCITY DATA: What does the data reveal about the relationship between the velocity of the projectile and the resulting crater size? *Use your data as support to your answer.*

3. ANGLE DATA: What does the data reveal about the relationship between the angle of the projectile and the resulting crater size? *Use your data as support to your answer.*

4. MASS vs. VELOCITY: Can you tell which is the most important factor controlling the kinetic energy of a projectile, its mass, or its velocity? *Look closely at your data and the formula for kinetic energy as support to your answer and explain your reasoning.*

5. If the projectile were dropped from twice as high as your biggest drop height, how much larger would the resulting crater be? Explain your answer.

6. Describe the constraints of the model you created. How would a real-life meteorite impact be different from your model? State the benefits and limitations of this experiment.

6. List 3 questions that you now have about impact craters. Consider Earth's atmosphere, materials in meteorites, the angle of incoming meteorites, gravity on other planets, and other factors.

7. Daniel Barringer told investors in 1907 there were "in excess of a million tons" of iron meteorite and later, in 1925, Barringer claimed the iron meteorite weighed "in the neighborhood of 10 million tons." The Barringer Meteorite Crater is nearly a mile wide and 750 feet deep. Do you think either of Daniel Barringer's claims are accurate? What information did he need to figure out the mass of the meteorite?