

Student directions *Gravity Force Lab* activity 1a

Learning Goals: Students will be able to:

- Describe how the force on a small mass compares to the force on a larger mass.
 - Describe how force between two masses changes with mass and distance.
1. How does the gravitational force that a small mass has towards a large mass compare to the force that a large mass has towards a small mass? What physics law could you have used to predict the answer?
 2. Design experiments to find the best equation for the relationship for mass and gravitational force.
 - a. Include a spreadsheet and chart with a trendline from Excel.
 - b. Describe how you chose whether mass or force should be used for the x- axis
 - c. What law of physics did you use to help you chose an appropriate trendline? How do your results compare to the expected curve?
 3. Design experiments to find the best equation for the relationship for gravitational force and distance.
 - a. Include a spreadsheet and chart with a trendline from Excel.
 - b. Describe how you chose whether distance or force should be used for the x- axis
 - c. What law of physics did you use to help you chose an appropriate trendline? How do your results compare to the expected curve?