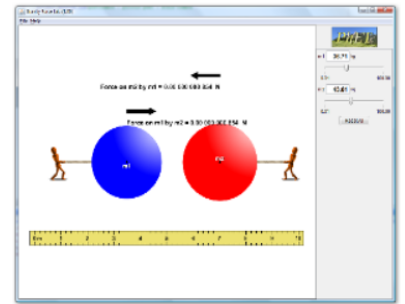


Name: _____

Period: _____

Gravitationally Attracted

Direction: You have already explored the variables that affect the amount of gravitational force acting between two objects. In this activity, you will quantitatively investigate how these variables affect the gravitational force.



Simulation Activity Part 1

Direction: Complete Data Table 1 below using the Gravity Force Lab simulation. For the position, make sure that the black dot in the center of each sphere aligns with the indicated position. Record your answer in scientific notation with three significant digits.

Data Table 1

Mass of m1	Position of m1	Mass of m2	Position of m2	Force on m2 by m1	Force on m1 by m2
75 kg	3 m	65 kg	8 m		
100 kg	3 m	95 kg	8 m		
50 kg	1 m	75 kg	8 m		
50 kg	3 m	75 kg	7 m		
60 kg	1 m	25 kg	6 m		

Simulation Activity Part 2

Now, it is your turn to control the variables in the Gravity Force Lab simulation. Complete Data Table 2 by using different masses and distances between the two spheres. Do not use the same information from Data Table 1. For the force, record your answer in scientific notation with three significant digits.

Data Table 2

Mass of m1	Position of m1	Mass of m2	Position of m2	Force on m2 by m1	Force on m1 by m2

Name: _____

Period: _____

Questions

Answer the following questions using a complete sentence.

1. What happened to the gravitational force when you increased the mass of the two spheres?

2. What happened when you increased the distance between the two spheres?

3. What can you infer from the data you have collected?

4. Explain the gravitation force between you and Earth.
