

Newton's Law of Gravitation

Simbucket – Gravitational Fields

Link: <http://www.simbucket.com/simulation/gravitation/>

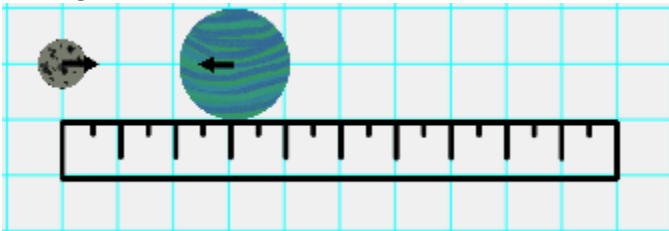
Goal:

To investigate the following relationships

1. Gravitational force vs. mass of objects.
2. Gravitational force vs. distance between masses.

Initial Setup:

Arrange masses as follows.



Scaling

Each blue gridline = 1 unit, black ruler tick marks = 0.5 unit

Investigation 1: Gravitational force vs. mass

Constants: 1-mass, radius.

Variable: 2nd mass

Record data below.

Trial #	Mass of object [kg]	Gravitational Force [N]
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Investigation 2: Gravitational force vs. distance

Constants: Mass 1 and mass 2

Variable: Distance (increase separation)

Record data below.

Trial #	Distance []	Gravitational Force [N]
1	6	
2		
3		
4		
5		
6		
7		
8		
9		
10		

Processing data, conclusion

Graph your data above and make an evidence based conclusion. You may use a spreadsheet.