

PHET Gravity Force Lab

Question 1: How does gravitational force change as one or more of the masses changes?

Hypothesis 1:

Question 2: How does gravitational force change as the distance between the masses change?
Hypothesis:

## Procedures:

- For question 1 , set one mass from $5-20 \mathrm{~kg}, 5 \mathrm{~m}$ apart from the second mass. Vary the second mass only. Take at least 10 data points.
- For question 2, set both masses to $\mathbf{2 0} \mathbf{~ k g}, \mathbf{5 m}$ apart. Vary the distance. Take as many data points as the screen will allow.

Data: Complete tables, make 2 graphs (Mass vs Force, Distance vs Force)

Analysis and Conclusions:

- Answer both questions by stating whether the relationships are one or more of the following: INEAR, QUADRATIC, DIRECTLY PROPORTIONAL, and/or INVERSELY PROPORTIONAL.

TABLE 1: MASS VS FORCE

| Mass (kg) | Force (N) |
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## TABLE 2: Distance VS FORCE

| Distance (m) | Force (N) |
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