# **Gravity Force Simulation**



**Directions**: Use the “Gravity Force Simulation” to explore gravity. Record your responses in Notability.

[**Click HERE**](https://phet.colorado.edu/sims/html/gravity-force-lab/latest/gravity-force-lab_en.html) to access the online simulation.

**Discover:**

Identify two ways you can change the amount of force (gravity) the objects experience.

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Complete the chart for each scenario below.

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| --- | --- | --- | --- | --- | --- |
| **Mass of 1** | **Location of 1** | **Mass of 2** | **Location of 2** | **Force (1 on 2)** | **Force (2 on 1)** |
| 25 kg | 3 m | 25 kg | 7 m |  |  |
| 25 kg | 1 m | 25 kg | 9 m |  |  |
| 100 kg | 1 m | 100 kg | 9 m |  |  |
| 100 kg | 1 m | 1 kg | 9 m |  |  |

**Summarize:** Determine whether each statement about gravity is true.

\_\_\_\_ The force of gravity increases as objects move closer together.

\_\_\_\_ The force of gravity increases as an object’s mass increases.

\_\_\_\_ If two objects have different masses, the more massive object pulls with a greater force.

**Apply**:

The earth’s gravity is pulling on you. Are you pulling on the earth? Explain your reasoning.

Gravity is a force of attraction between objects based on their mass and their distance apart. Why aren’t other objects, like your pencil, being pulled towards you? Explain your reasoning.