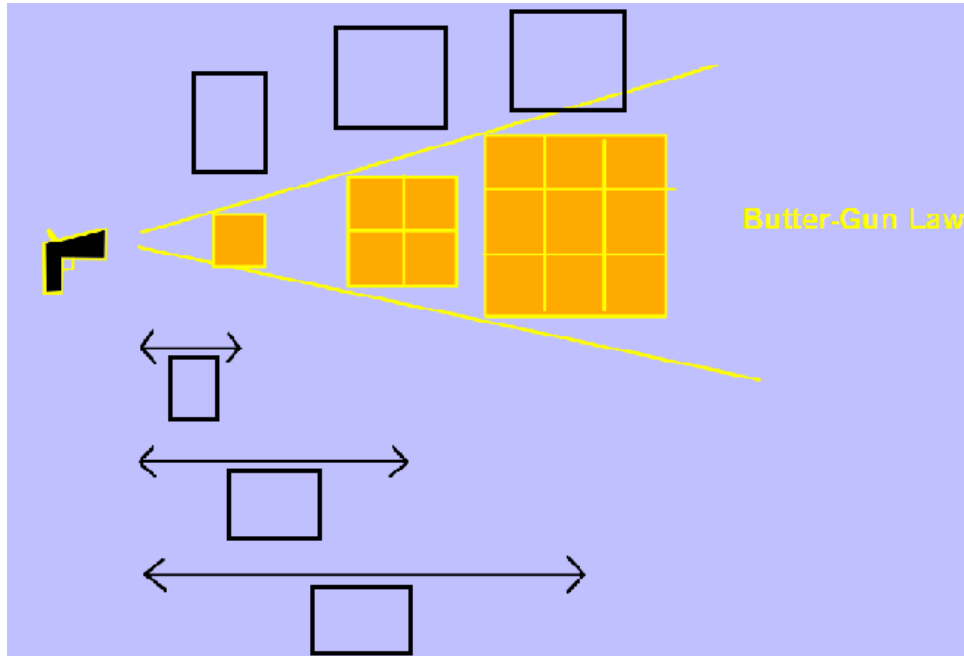


## Gravitation – Guided Notes

Butter Gun Law:



An inverse square law is where a quantity drops off proportional to \_\_\_\_\_.

Butter Gun Calculations:

*First Calculation*

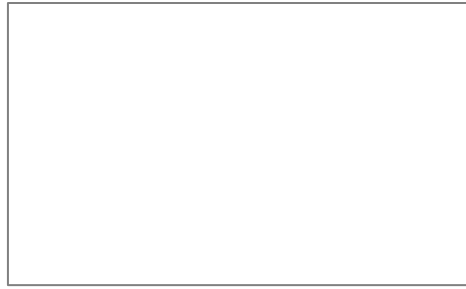
$$\frac{1}{d^2} = \frac{1}{1^2} = \frac{1}{1} = 1''$$

*Second Calculation*

*Third Calculation*

*Inverse Square Law* BUTTER  $\propto$

**Newton's Universal Law of Gravitation:**



$F_g =$  \_\_\_\_\_

$G =$  \_\_\_\_\_

$m_1 =$  \_\_\_\_\_

$m_2 =$  \_\_\_\_\_

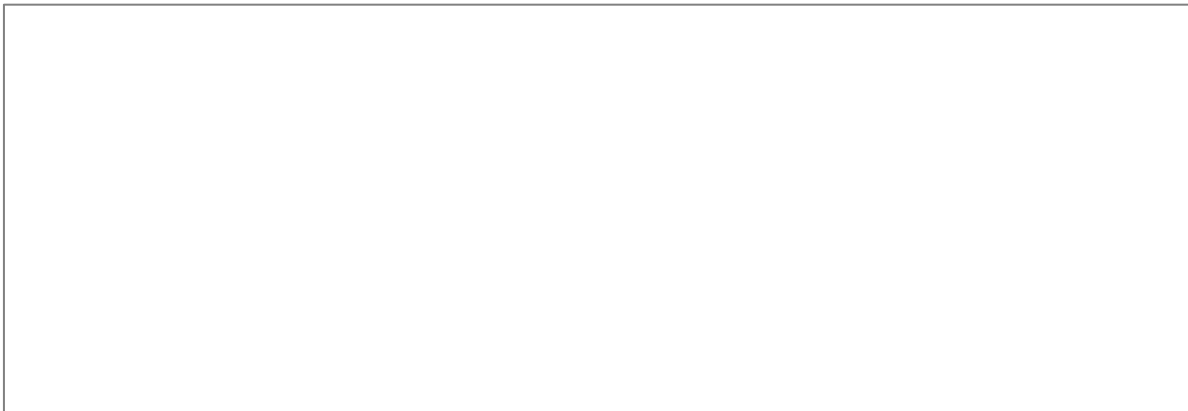
$d =$  \_\_\_\_\_

**Two types of Problems:**

- \_\_\_\_\_
- \_\_\_\_\_

**Example Calculation Problem:**

What is the gravitational attraction between a 3 kg baby and the planet Mars?



**Example Inverse Square Law Problem:**

If you double the distance between two objects, and double the mass of one of the objects, what happens to the force of gravity between them?

Before:



After:

