

Name: _____

Date: _____

Period: _____

Newton's Law of Universal Gravitation.

The Newtonian Synthesis



The Law

- all objects with mass _____ all other objects in the universe with a force called gravity.
- gravity is _____ to the product of the two masses.
- gravity is _____ to the square of the separation between the two objects.

- G is the _____, which is a measure of the strength of gravity

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Examples

1. Calculate the force of gravity between a 5-kg bowling ball and a 0.4-kg paperweight that are separated by 20 cm.
2. Calculate the *acceleration of gravity* on the surface of the Earth.