

Name:

Date:

Period:

Newton and His Laws

Questions:

Notes:

Isaac _____

-brilliant mathematician

-described world/nature using _____

- _____ Laws

Newton's _____ Law

- An object in motion will _____ in motion and objects at _____ will stay at rest unless acted upon by an _____ force. This is also known as the law of _____.
- More mass = _____ inertia
- No force (or balanced forces) = no _____ in motion

Balanced and Unbalanced Forces

- _____ force = no acceleration

Balanced forces have two possibilities:

- (1) an object at rest does not _____
- (2) an object in motion continues at the same _____ in the same _____

- _____ force = acceleration

Unbalanced forces have two possibilities:

- (1) an object at rest _____ moving
- (2) an object in motion _____ its speed and/or direction

Friction and Momentum

- Friction is a force that causes objects to _____ motion.
- _____ is the amount of matter that is moving and how fast the matter is moving.
 - Momentum = _____ x _____

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Newton's _____ Law

- The _____ of an object is equal to the net force acting upon the object _____ by the mass of the object.
- _____ = _____ / _____

Acceleration

- *changing* _____ *or* _____
 - _____ (positive acceleration)
 - _____ (negative acceleration).
- Acceleration can be calculated in two ways:
 - acceleration = (final speed - initial speed) ÷ time
 - acceleration = Force / mass

Newton's _____ Law

- For every _____ (force), there is an _____ and _____ reaction (force). This is known as the _____ / _____ law.

Gravity

- Gravity causes objects on Earth to fall at a rate of about _____ m/s² (or 1 G). This means that when an object is in freefall, every second it increases its speed by 9.8 m/s.
 - How fast would an object be falling after 5 seconds?
- _____ is a measurement of the gravitational force acting on an object's mass.

Summary: