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**Terms**

**Force**  -  A force is defined as a \_\_\_\_\_or a \_\_\_\_\_\_\_.

**Inertia**  -  The tendency of an object to remain at \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Mass**  -  The amount of \_\_\_\_\_\_\_\_\_ in a given body.

**Newton**  -  The name given to a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. One Newton is enough force to cause a

1 KG body to accelerate at a rate of one meter per second per second.

**Weight**  -  The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ exerted on a given mass.

**Normal Force**  -  The force caused by two bodies in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that is perpendicular to the plane of contact.

**Frictional Force**  -  The force caused by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between two bodies in direct contact that is parallel to the plane of contact and in the opposite direction of the motion of one object relative to the other.

**Tension Force**  -  The force felt by a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that transmits another force.

**Static Frictional Force**  -  The frictional force on two bodies \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Kinetic Frictional Force**  -  The frictional force on two bodies in motion \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Centripetal Acceleration**  -  The acceleration, directed toward the center of a circle, which causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Centripetal Force**  -  The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, directed toward the center of a circle, which causes uniform circular motion.

**Newton's Three Laws**  - 

1.

2.

3.

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| **Newton's Second Law** | http://img.sparknotes.com/figures/A/a96c7c71d86a015452a717b0693ec459/latex_img2.gif*F* = *ma* |

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| **Newton's Third Law** | *F* AB = - *F* BA |

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| **Formula for maximum static frictional force.** | *F* s max = *μ* s *F* N |

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| **Formula for kinetic frictional force.** | *F* k = *μ* k *F* N |

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| **Equation for centripetal acceleration.** | *a* = http://img.sparknotes.com/figures/A/a96c7c71d86a015452a717b0693ec459/latex_img1.gif |

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| **Equation for centripetal force.** | *F* = http://img.sparknotes.com/figures/A/a96c7c71d86a015452a717b0693ec459/latex_img5.gif |

For more review, visit <http://www.sparknotes.com/physics/dynamics/newtonapplications/terms.html>

Key

**Force**  -  A force is defined as a push or a pull.

**Inertia**  -  The tendency of an object to remain at constant velocity.

**Mass**  -  The amount of matter in a given body.

**Newton**  -  The name given to a unit of force. One Newton is enough force to cause a 1 KG body to accelerate at a rate of one meter per second per second.

**Newton's Three Laws**  -    
First Law: If http://img.sparknotes.com/figures/A/a96c7c71d86a015452a717b0693ec459/latex_img2.gif*F* = 0 then *a* = 0 and *v* = constant **Force**  -  A force is defined as a push or a pull.

**Inertia**  -  The tendency of an object to remain at constant velocity.

**Inertial reference frame**  -  Any frame in which Newton's Laws are valid.

**Mass**  -  The amount of matter in a given body.

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**Newton's Three Laws**  -    
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Second Law: http://img.sparknotes.com/figures/A/a96c7c71d86a015452a717b0693ec459/latex_img2.gif*F* = *ma*   
Third Law: *F* AB = - *F* BA

**Weight**  -  The gravitational force exerted on a given mass.

**Free Body Diagram**  -  A diagram of all forces acting upon a given object.

**Normal Force**  -  The force caused by two bodies in direct contact that is perpendicular to the plane of contact.

**Frictional Force**  -  The force caused by the electrical interaction between two bodies in direct contact that is parallel to the plane of contact and in the opposite direction of the motion of one object relative to the other.

**Tension Force**  -  The force felt by a rope or cable that transmits another force.

**Static Frictional Force**  -  The frictional force on two bodies at rest.

**Coefficient of Static Friction**  -  Defines the proportionality between *F* N and *F* s for two given materials.

**Kinetic Frictional Force**  -  The frictional force on two bodies in motion relative to one another.

**Coefficient of Kinetic Friction**  -  Defines the proportionality between *F* N and *F* k for two given materials.

**Centripetal Acceleration**  -  The acceleration, directed toward the center of a circle, which causes uniform circular motion.

**Centripetal Force**  -  The force, directed toward the center of a circle, which causes uniform circular motion.

**Formulae**

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