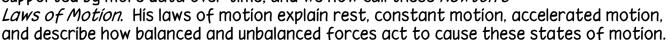
Newton's Laws of Motion Project

Sir Isaac Newton lived during the 1600s. Like all scientists, he made observations about the world around him. Some of his observations were about motion. His observations have been supported by more data over time; and we now call these *Newton's*



Review the three laws of motion:

- Newton's first law of motion says that an object in motion will stay in motion and an object at rest will stay at rest unless acted on by an unbalanced force.
 - o An object will not change its motion unless a force acts on it.
 - An object that is not moving remains at rest until something pushes or pulls it.
 - o An object that is moving remains moving until something pushes or pulls it.
 - o All objects resist having their motion changed.
 - o This tendency to resist a change in motion is called inertia.
 - o The more mass an object has, the greater its inertia.
- The second law of motion states that the force of an object is equal to its mass times its acceleration.
 - o A change in motion occurs only if a net force is exerted on an object.
 - o A net force changes the velocity of the object, and causes it to accelerate.
 - o If an object is acted upon by a net force, the change in velocity will be in the direction of the net force.
 - o The acceleration of an object depends on its mass.
 - The more mass an object has or the more inertia it has, the harder it is to accelerate.
 - More mass means less acceleration if the force acting on the objects is the same.
- Newton's third law of motion states that for every action there is an equal and opposite reaction.
 - When one object exerts a force on a second object, the second object exerts an equal force in the opposite direction on the first object.
 - The force exerted by the first object is the action force.
 - o The force exerted by the second object is the reaction force.

Date Assigned:

Oct.

Date Due:

Oct. 15

What to do:

- 1. Illustrate an example of **each** of the three laws of motion.
- 2. Use one poster board or large piece of paper 3 illustrations on one board or sheet of paper.
- 3. You may draw or use images from magazines or the Internet.
- 4. Include an explanation of how the illustration demonstrates or describes the law of motion. Put the explanation next to the illustration. Do not use a separate sheet of paper for the explanation.
- 5. Make sure your illustrations are colorful and neat.

How you will be evaluated:

This counts as a TEST grade!

Your illustration will be checked for these things:

- Accuracy & completion (90% of grade). An incomplete illustration or explanation will not be completely accurate.
- Visual Appeal (10 % of grade). This includes neatness.

	Expert	Skilled	Novice	Beginner
	30 Points	24 Points	18 Points	12 Points
Content & Accuracy	 All written information is accurate Illustration is accurate No errors in illustration or explanation Written information is complete Illustration is complete 	 All written information is accurate Illustration is accurate No major errors in illustration or explanation Written information is mostly complete Illustration is mostly complete 	 All written information is partly accurate Illustration is partly accurate Noticeable errors in illustration or explanation Written information is mostly complete Illustration is mostly complete 	 Written information is inaccurate Illustration is inaccurate Major errors in illustration or explanation Written information is incomplete Illustration is incomplete
	Expert	Skilled	Novice	Beginner
	10 Points	8 Points	6 Points	4 Points
	- Colorful	- Colorful	- Colorful	No color
Visual Appeal	Eye-appealingNo obvious erasure marks, White-Out	Eye-appealingSmall erasure marks,No White-Out	Obvious erasure marks, White-Out	 Large amounts of erasure marks, White- Out Paper torn or dirty