

Newton's Three Laws of Motion

Goal: You will demonstrate your knowledge of Newton's Three Laws of Motion by creating a brochure, video blogs, and three science experiments.

What you need to do:

- Create a video presentation outlining everyday examples of each law.
- Design three experiments, one for each law, that would allow others to see the laws in action.
- Choose either option 1 or option 2 and create a **poster-size** brochure.

Grading:

Each part of this project will count as a homework grade for a total of three grades. **The three grades will be averaged together to equal a test grade.**

Video Blogs	Experiments	Brochure
Blog #1 (0-15 points) _____	Lab #1 (0-30 points) _____	Cover flap (0-10 points) _____
Blog #2 (0-15 points) _____	Lab #2 (0-30 points) _____	Inside 1 (0-18 points) _____
Blog #3 (0-15 points) _____	Lab #3 (0-30 points) _____	Inside 2 (0-18 points) _____
Blog #4 (0-15 points) _____	Creativity (0-10 points) _____	Inside 3 (0-18 points) _____
Blog #5 (0-15 points) _____		Inside Flap (0-18 points) _____
Blog #6 (0-15 points) _____		Middle Back (0-18 points) _____
Creativity (0-10 points) _____	AVG GRADE (TEST) _____	Deduction for not being poster-sized (-15 points)

VIDEO BLOGS

1. Your group must record yourselves accurately demonstrating each of Newton's Laws. You must have two different demonstrations for each of the three laws. Demonstrations must be school appropriate.
2. There must be an explanation on camera, either while the demonstration is occurring, or after the demonstration, of how each illustrates the law. All group members must in some way be in the video. You can recruit other people to assist in demonstrations.
3. You may email these blogs to queenwhitleyyms@aol.com

Video Blog 1 A demonstration for the First Law of Motion and an explanation of how the law applies.	Video Blog 2 A demonstration for the First Law of Motion and an explanation of how the law applies.	Video Blog 3 A demonstration for the Second Law of Motion and an explanation of how the law applies.
Video Blog 4 A demonstration for the Second Law of Motion and an explanation of how the law applies.	Video Blog 5 A demonstration for the Third Law of Motion and an explanation of how the law applies.	Video Blog 6 A demonstration for the Third Law of Motion and an explanation of how the law applies.

EXPERIMENTS

1. You must create an experiment for each law along with a lab sheet.
2. Each lab sheet must include the following sections: a title, the purpose, the materials, the procedures, and an analysis (lab questions and discussion, graphing data, etc...) section.
3. Each experiment must be authentic and workable. You will also need to include a section about your own experience with the lab.
4. You may email me the experiments at queenwhitleyyms@aol.com or bring in a printed copy.

**BROCHURE
Option 1**

Newton's Laws of Motion and Sports

In this project, you will explain the three laws of motion by relating them to your favorite sport. Your final product should be in the form of a **poster-size** brochure. Your brochure should include the following:

<p>Front Cover</p> <ul style="list-style-type: none"> ➤ Title ➤ Your Name ➤ An illustration of the sport 	<p>Middle Flap/Back</p> <p><i>Key Terms</i></p> <ul style="list-style-type: none"> ➤ Balanced force ➤ Unbalanced force ➤ Inertia ➤ Force ➤ Acceleration ➤ Mass ➤ Action force ➤ Reaction force 	<p>Inside Flap</p> <p><i>Newton's Third Law</i></p> <ul style="list-style-type: none"> ➤ State what the law means (5 or more sentences) ➤ Provide an illustrated example of how the law relates to the sport ➤ Three sentence explanation of your picture
<p>Inside page 1 (left)</p> <p><i>General Information</i></p> <ul style="list-style-type: none"> ➤ Objective of the game ➤ How many players are needed to play the game ➤ The different positions of the game ➤ Rules of the game 	<p>Inside page 2 (middle)</p> <p><i>Newton's First Law</i></p> <ul style="list-style-type: none"> ➤ State what the law means (5 or more sentences) ➤ Provide an illustrated example of how the law relates to the sport ➤ Three sentence explanation of your picture 	<p>Inside page 3 (right)</p> <p><i>Newton's Second Law</i></p> <ul style="list-style-type: none"> ➤ State what the law means (5 or more sentences) ➤ Provide an illustrated example of how the law relates to the sport ➤ Three sentence explanation of your picture

All pictures should be your work. No printed pictures are allowed.

**BROCHURE
Option 2**

Newton's Laws of Motion and Superheroes

In this project, you will explain the three laws of motion by relating them to your favorite superhero (real or fictional). Your final product should be in the form of a **poster-sized** brochure. Your brochure should include the following:

<p>Front Cover</p> <p>Title</p> <p>Your Name</p> <p>An illustration of the superhero</p>	<p>Middle Flap/Back</p> <p><i>Key Terms</i></p> <p>Balanced force</p> <p>Unbalanced force</p> <p>Inertia</p> <p>Force</p> <p>Acceleration</p> <p>Mass</p> <p>Action force</p> <p>Reaction force</p>	<p>Inside Flap</p> <p><i>Newton's Third Law</i></p> <p>State what the law means (5 or more sentences)</p> <p>Provide an illustrated example of how the law relates to your superhero</p> <p>Three sentence explanation of your picture</p>
<p>Inside page 1 (left)</p> <p><i>General Information</i></p> <ul style="list-style-type: none"> ➤ Name of the superhero ➤ Description of the superhero's powers ➤ Description of the superhero's villain/enemy 	<p>Inside page 2 (middle)</p> <p><i>Newton's First Law</i></p> <ul style="list-style-type: none"> ➤ State what the law means (5 or more sentences) ➤ Provide an illustrated example of how the law relates to your superhero ➤ Three sentence explanation of your picture 	<p>Inside page 3 (right)</p> <p><i>Newton's Second Law</i></p> <ul style="list-style-type: none"> ➤ State what the law means (5 or more sentences) ➤ Provide an illustrated example of how the law relates to your superhero ➤ Three sentence explanation of your picture

All pictures should be your work. No printed pictures are allowed.