**Newton’s Laws Foldable Project**

**Introduction** –

Sir Isaac Newton lived during the 1600’s, he made observations about the world around him. Building on what his predecessors Aristotle and Galileo observed, Newton described his observations about motion and forces. Newton’s observations have been supported by more and more data over time and today we all them “Newton’s Laws of Motion”. These laws of motion explain objects at rest, objects in constant motion, objects in accelerated motion, and describe how balanced & unbalanced forces act to cause these states of motion.

**Newton’s Abbreviated Biography** –

 Sir Isaac Newton was born in England in 1643 and died, age 84, in 1727. Newton attended Cambridge University from 1661-1665 to obtain a bachelor’s degree and from 1666-1668 to obtain a master’s degree. Isaac Newton became a professor of mathematics at Cambridge University in 1669 at age 26. Newton’s major achievements include: showing that sunlight (white light) is composed of all the colors of the rainbow, building the world’s first working reflecting telescope, inventing calculus (credit is also given to Leibniz), formulating the three laws of motion (inertia, F=MA, force-pairs), and predicting that the Earth is not perfectly spherical. Isaac Newton was appointed Warden of the Royal Mint in 1969 and became the Master of the Royal Mint in 1700. Newton was president of the Royal Society in 1703 & was knighted in 1705 becoming Sir Isaac Newton.

**Instructions** – Follow these instructions to create a 8 page booklet describing the scientific insights of Sir Isaac Newton. Use internet resources AND our PDF Textbook found here:

**https://www.sfponline.org/uploads/FPSStudentEditionEBOOK.pdf**

Use your Online PDF Textbook (URL address above) to complete the following:

* **Page 1** - This is the “Title Page”. Include a Title: “Newton’s Laws of Motion, & Gravity”. Include your name as the author.
* **Page 2** - Include a “Table of Contents” that details what can be found on each page.
* **Page 3** – Include the definition of Newton’s first law. Include a labeled diagram (fig 3.5) providing an example of the first law in action. (online/PDF book pg 45, 48)
* **Page 4** – Include the definition of Newton’s second law. Include a labeled diagram providing an example of the second law in action. Include all three versions of the equation associated with Newton’s second law with units. Include an explanation of the difference between Mass and Weight. (online/PDF book pg 45, 47, 49, 50, & 53)
* **Page 5** – Include the definition of Newton’s third law. Include a labeled diagram providing an example of the third law in action. (online/PDF book pg 45, 58, 59)
* **Page 6** – Include the definition of Gravity. Include the equation to calculate the strength of the gravitational force between two objects AND define each variable in the equation. Include a labeled diagram showing how gravity works. (online/PDF book pg 52, 55)
* **Page 7** – Describe the difference between Balanced Forces and Unbalanced Forces using the tractor-diagram from page 51 of your textbook. Define the terms Net Force and Equilibrium and use them in your description of Balanced vs Unbalanced forces. (online/PDF book pg 51)
* **Page 8** – Create a glossary using the unit 2 vocabulary terms.