Grade 9,10
Distance Learning Module 4: Week of: April 20-April 24

Science – Conceptual Physics - *Modified from Unit # 1- Forces and Motion*

Targeted Goals from Stage 1: Desired Results

Content Knowledge: Newton's second law accurately predicts changes in the motion of macroscopic objects.

Vocabulary: mass, weight, Kg, g, N, Newton's Laws of Motion, gravity, acceleration, free fall, microgravity, force, friction, static friction, sliding friction, rolling friction, fluid friction

Skills: Students will be able to examine information/data/evidence to make inferences and identify possible underlying assumptions, patterns, and relationships.

Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.

Expectation:

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Monday: Students will be able to explain Newton's Third Law of Motion and how a force applied to an object results in an equal and opposite force.	Newton's Laws Notes to slide # 26-38 Newton's Laws and the Science of the NFL EdPuzzle Activity	Hewitt Forces Concept Development Page
Tuesday: Students will be able to explain the difference between the mass and weight of an object by observing these properties of objects aboard the International Space Station.	Read textbook Chapter 12 pg. 363-369 Concepts in Action Textbook Chapter 12.2 Forces What is Gravity? Bending the Fabric of Space-Time Video	Edpuzzle Mass and Weight on Space Station

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Wednesday: Students will be able to analyze how the slope of a line in a mass vs weight graph represents the acceleration of gravity.	Mass vs. Weight Video Instruction with data Mass vs Weight Lab (Watch video first to get data) Physics Formulas	Complete lab activity and graphs and submit in Classroom by Thursday
Thursday Students will be able to analyze how the slope of a line in a mass vs weight graph represents the acceleration of gravity.	Khan Academy Mass vs Weight Calculations/Explanation Continue Working on the Mass vs Weight Lab (Part 2 Calculations of Weight on Moon and Jupiter)	Complete lab activity and graphs and submit in Classroom
Friday: Students be able to describe the four different kinds of friction and be able to determine the relative strengths of each	Newton's Laws Notes to slide # 29-35 Friction Lab Video Instructions and Data Friction Lab with Supplied Data	Submit Friction Lab and Lab Questions to Google classroom Sliding and Rolling Friction EdPuzzle

Week criteria for success

Students should complete and submit all activities for the week with a demonstrated amount of effort, asking questions when needed.
Students should view video support materials to add context to the application of physics to the real world

Supportive resources and tutorials for the week (plans for re-teaching):

Unit 1 Part 1: Forces Review Guide

Physical Science Concepts in Action Glossary

Concepts in Action Textbook Chapter 12.2 Forces

Physics Formula Card with Math Support