

Grade 9, 10

Distance Learning Module 3: Week of: April 13-17

**Content Area: Conceptual Physics - Modified from [Unit #1 - Forces and Motion](#)**

**Targeted Goals from Stage 1:** Use the scientific process to generate evidence that addresses the original questions.

**Content Knowledge:**

- A free body diagram (FBD) is used to graphically depict the forces on an object and to predict the motion of the object
- Newton's second law accurately predicts changes in the motion of macroscopic objects.
- Acceleration is the change in velocity with respect to time and it has a direction (it is a vector)

**Vocabulary:** Newton's 1st, 2nd, and 3rd Law of Motion, inertia, acceleration, force, mass, Newton (N), balanced force, unbalanced force, net force, position, vector, buoyancy, gravity, friction

**Skills:** Scientists examine evidence to formulate interesting questions and solve problems.  
Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

**Expectation:**

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Monday: Squiggy the Diver Lab Activity and Model Making Activity Part 1	Squiggy Diver Lab Activity and Model Making  Squiggy Diver Demo Video (Watch video while viewing lab handout)	Take a photo of model after Part 1; Embed the photo into the document  Respond to the Discussion question in classroom
Tuesday: Squiggy the Diver Lab Activity and Model Making Activity Part 2 and 3	Squiggy Diver Demo Video ( Watch video while viewing lab handout)	Take photo of revised model and embed into the lab handout

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
		Submit completed lab handout
<p>Wednesday:</p> <p>Students will share their model in a Virtual consensus circle via ZOOM</p>	<p>ZOOM meeting invite posted here for 1:30 to share models and discuss</p>	<p>Edpuzzle BrainPop on Buoyancy</p>
<p>Thursday:</p> <p>Students will be able to explain Newton First Law of Motion and be able to determine the net force of force body diagrams</p>	<p>Unit 1 Part 1: Forces Review Guide</p> <p>Newton's Laws Notes to slide # 1-13</p> <p>Balanced and Unbalanced Force Body Diagrams Calculations</p>	<p>Edulastic Newton's First Law of Motion Check-in</p>
<p>Friday:</p> <p>Students will be able to explain how Newton's Second Law of Motion explains the acceleration of an object when unbalanced forces are applied.</p>	<p>Newton's 2nd Law of Motion #14-26</p> <p><math>F = ma</math> Force Problems (Resources folder contains the formula card with math support as needed)</p>	<p>Submit Force problem sheet to classroom</p> <p>(Be sure to use units in your answers!)</p>

**Week criteria for success** (attach student checklists or rubrics):

Students should participate and complete all of the assessment activities for the week

Students should complete the Thursday Edulastic assessment with a score of at least 75%

Force calculations Friday check in for successful skill in determining variables to do with  $F = ma$

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

Physical Science Concepts in Action Textbook pg. 357-369

Unit 1 Part 1: Forces Review Guide

Newton's Laws Guided Note packet (goes with Chapter 12 Powerpoint)

Forces and Motion Vocabulary Definitions

Force Body Diagrams showing Net Force Practice