WEEKLY REMOTE LESSONS
May 11-15, 2020

BROCKTON HIGH SCHOOL
SCIENCE DEPARTMENT

Course: Honors Physics

We hope that you, your families and loved ones are well! During the COVID-19 pandemic school closure, we will be doing our best to provide you engaging activities that will enrich your understanding of Physics. During term 4, you will primarily be exploring forces and energy, specifically as they relate to electricity.

Goal for this week
Learning Objectives: Students will be able to … 1. understand the concept of electric charge, types of charge and how they are conserved. 2. interpret how charges and distance between them affects the electric force. 3. solve problems involving Coulomb's law. (*2016 MA STE Standard: HS-PS2-4)*
Literacy Objectives: 1. Reading: to understand a concept and construct meaning 2. Writing: to generate a response to what one has read, viewed, or heard 3. Reasoning: to compute, interpret and explain numbers *(https://www.bpsma.org/schools/brockton-high-school/about-us/mission-literacy-charts)*

Lesson:

- ***Your science teacher will be in contact to clarify expectations (like when and how to submit your work for credit) for your class.***
- Click on the links to view the resources.

WHY THIS MATTERS

The electric charge is part of everything related to electricity. Today we use electrical technology not just to support our everyday lives (TV, Computers, phones, etc.), but also to diagnose muscle and nerve activity inside the body. One application of Coulomb's law is in copying/printing. Can you think other uses?

Topic: Electric Charge and Coulomb's Law

Day	**What to do …**
Monday	Watch videos: Triboelectric effect and charge (12 minutes) and conservation of charge (8 minutes) in Khan Academy. After watching the videos, answer the 4 questions about quantization of charge in experimental data (10 minutes).
Tuesday	Read Khan Academy Conservation of energy article (15 minutes). Answer the 8 questions about applying conservation of charge and charge transfer processes (15 minutes).
Wednesday	In the Physics Classroom, read the passage on charge interactions and answer the associated questions (15 minutes). Read about the sticky tape experiments and answer the associated questions (15 minutes).
Thursday	Watch the Khan Academy video on Coulomb's Law (12 minutes). After watching the video, answer the questions about the relationship between electric force, charge, and distance and comparing electric force and gravitational force (18 minutes).
Friday	Read the Coulomb's Law and electric force review. What questions do you still have about electric charges and Coulomb's law? Send your teacher an e-mail with at least one for each topic (30 minutes).

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Additional Support
Email: • Please reach out to your science teacher with specific questions about the lesson.
Office Hours: • Here is a list of the science teachers' office hours. Please email your teacher to set up meeting times.
Other questions: • Science Department Head Dr. David Mangus davidmangus@bpsma.org