WEEKLY REMOTE LESSONS
May 18-22, 2020

BROCKTON HIGH SCHOOL
SCIENCE DEPARTMENT

Course: Biology

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 Biology. During term 4, you will be exploring topics in Genetics and Evolution.

Goal for this week

Learning Objectives:
Students will be able to …

1. understand that genes encode proteins.
2. understand how genetic information is expressed through the processes of transcription and translation.
3. decode genetic sequence information in DNA to form protein sequences.

(*2016 MA STE Standard: HS-LS1-1*)

Literacy Objectives:

1. Reading: to understand a concept and construct meaning
2. Writing: to take notes
3. Writing: to generate a response to what one has read, viewed, or heard
4. Reasoning: to identify a pattern, explain a pattern, and/or make a prediction based on a pattern

(*https://www.bpsma.org/schools/brockton-high-school/about-us/mission-literacy-charts*)

Lesson:

Biology Buffet: Protein Synthesis

- See the page(s) below for a complete description of what to do and the resources you will need.
- ***Your science teacher will be in contact to clarify expectations (like when and how to submit your work for credit) for your class.***

WHY THIS MATTERS

The first complete sequence of the human genome was completed in 2003, tool 13 years and cost roughly $3 billion. Now with advances in technology your DNA can be sequenced in roughly a day for less than $1,000. As we learn more about the instructions for life contained in DNA, DNA sequencing will become a valuable diagnostic tool. At some point during your life, you will almost certainly have your entire genome sequenced. Understanding how doctors interpret this information will be critically important in helping you make important health decisions.

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

Biology Buffet

Topic: Protein Synthesis

Assignments to do:

Click on the link to view the resource …

1. Review the Protein Synthesis PowerPoint- take notes and list any questions.
2. Complete the Protein Synthesis intro reading with questions
3. DNA mutation worksheet with practice
   genetic code wheel and chart will be needed to complete these

Choose 3 assignments from the buffet below to complete:
You should select 1 appetizer, 1 main course, and 1 dessert

Appetizer
Watch Fuse Biology Video on Protein Synthesis and write a summary.
Watch Amoeba Sisters Videos on DNA & RNA and Protein Synthesis and complete the handout that reviews the videos.
Protein Synthesis Duckster Reading with comprehension questions.

Main Course
Protein Synthesis Review 1
Protein Synthesis Race Simulation
Transcription and Translation PBS Simulation

Dessert
Protein Synthesis See, Think, Wonder
Protein Synthesis Short Answer
How DNA Controls the Workings of the Cells Handout

Recommended Pacing
Monday: Pre-work assignments, **Tuesday:** Finish pre-work assignments, **Wednesday:** Complete an appetizer, T**hursday:** Complete a main course, **Friday:** Complete a dessert