



**8th Grade Science - Mr. Lohrman - slohrman@hha47.org**

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## **Course Description**

I am excited for the upcoming 2020-21 school year. Just like everything else in the year 2020, science will be different for this school year. You will be taking the class for only half the year (quarters 1 and 3), which will be split with social studies (Mrs. Kosmer!!!) We will be using the IQWST curriculum as well as a new program to you called USA Test Prep to prepare for the state MISA science test.

## **Learning Goals**

### **NWEA MAP Test**

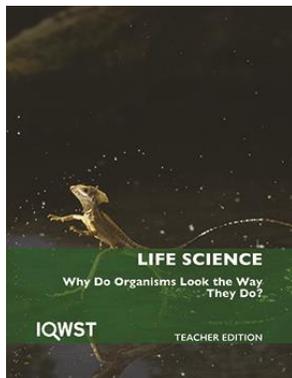
To measure each students progress throughout the year we will be completing the NWEA MAP test. This test has no bearing on grades but will show the students knowledge in science by giving them a RIT score, which represents the students level.

### **Portfolio Projects**

Each student will complete three large science projects throughout the course of the year. One of the projects includes a group project for the science fair towards the end of the year.

## **Materials - Online Platforms**

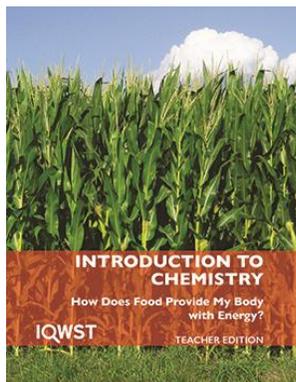
**IQWST** - The units of study are from the four online programs shown below.



### **Life Science 3: Why Do Organisms Look The Way They Do?**

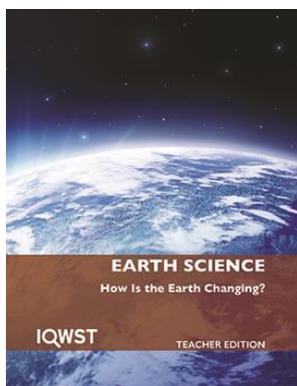
This unit uses investigations of organisms (including people) to raise questions about how similarities and differences between individuals and populations are influenced by inheritance of traits. Students investigate inheritance in plants they grow in class, and investigate pedigrees that document inheritance of human traits, developing a Mendelian model of inheritance to account for the patterns they uncover. Students use this model to explain the source of variation within a population, and why organisms of the same species exhibit many common characteristics. Students examine how changing

environmental conditions can influence variation in a population. Through investigations of several data-rich scenarios of population change, students develop a model of how changing environmental conditions can lead to organisms with some variations of traits being more likely to survive and produce offspring, resulting in shifted distributions of those traits in future generations. Students generalize their explanations to develop a model of natural selection as defined by naturally occurring variation in inherited traits, changing environmental conditions and differential survival, addressing most notably the crosscutting concepts of patterns, and of stability and change in systems.



### **Chemistry 3: How Does Food Provide My Body with Energy?**

This cross-disciplinary unit targets core ideas about food, photosynthesis and cellular respiration in the context of living systems. The unit builds core ideas, crosscutting concepts, and scientific practices addressed in other IQWST units, providing an opportunity to synthesize and to deepen understandings. Students address chemical reactions and the energy transformations associated with them, and address their relevance in their own lives and to their own bodies. Students investigate food at the molecular level and explore how cellular respiration, as a chemical reaction, allows organisms to use the energy in food. They also examine photosynthesis as the chemical reaction in which plants transform light energy into chemical energy to store in food. This unit thus builds understanding of a key crosscutting concept—the flow of matter and energy—as students consider what happens in a system during cellular respiration and photosynthesis.



### **Earth Science 3: How Is the Earth Changing?**

In this unit, students investigate plate tectonics by investigating how the Earth has changed in the past and continues to change today. The unit begins with a historical perspective as students learn how the theory of plate tectonics was developed through the social processes of evidence gathering and explanation in the scientific community. Students then explore the modern explanation for why plates move on Earth's surface by applying their understanding of convection, built on previous study of convection in the atmosphere, to the Earth's mantle. They investigate how these internal earth processes drive plate motion and how that motion leads to events such as earthquakes and eruptions,

and shape major surface features on Earth, including volcanoes, mountain ranges, islands, and oceanic trenches. They use this conceptual understanding to explain features and events found in selected case-study sites around the world.



This program will be used to prepare for the 8<sup>th</sup> grade state MISA science test. The test includes everything that was learned from 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade. USATestPrep has questions and interactions that are similar to the questions that are on the MISA test hitting all of the standards that is tested.

**Grading Policy** - The breakdown for grades are shown below.

- Assessments - 40% - unit tests and quizzes
- Assigned work - 50% - there is no "Homework" or "Classwork" grades. Anything that is assigned other than assessments falls in this category. The days work must be completed before the next days lesson.
- Participation/Attendance - 10% - attendance is taken daily. Attendance is determined by students being present in the online class from start to finish.
- Lateness – all assignments are due by 7:45 the next day and will be considered late after that time.

**Attendance Policy** – Students are expected to be in attendance on time for each online class. Attendance will be taken every day.

### **Learning Toolbox**

- Google Classroom – links to resources such as videos, articles, etc. Class announcements and assignments will all be posted on Google Classroom
- Curriculum – IQWST and USATestPrep

### **Coach Class**

Coach class will be offered from 2:00 – 2:45 on Wednesdays. All are welcome to come however you may receive an invitation to attend.