8th Grade Physical Science

Teacher: Dr. Justin Savage

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Course Description:

This course explores the relationships between matter, energy transformation, Laws of motion, and magnetism. Students will obtain an understanding of the scientific mechanisms associated with the properties of matter and energy transformation as a unifying concept in this science discipline. This will be explained with a particular focus on addressing the various forms of energy (potential, kinetic, chemical, thermal) within a system. Students will also be able to identify the effects of force acting upon an object and explain how magnetism is transmitted between objects.

Supplies Needed & Instructional Resources:

*Pencils
*Ink pens
*Composition notebook
*Notebook paper
*Calculator
* 2 pocket paper folders of student's choice

*Instructional resources used for the course (Including review, acceleration, video and text) will be available on the weekly **Learner Pathway** and posted in the **Google Classroom.**

Units of study

* Unit 1: Nature of Matter
* Unit 2: Forms and Transformations of Energy
* Unit 3: Force and Motion
* Unit 4: Characteristics of Waves
* Unit 5: Electricity and Magnetism

Performance-based objectives

At the completion of this course, the student will be able to:

1.) Explain the differences between chemical and physical changes
2.) Describe and identify the three types of matter (Solid, liquid, gas)
3.) Identify the movement of particles in matter when thermal energy is added or removed
4.) Compare and contrast the association between pure substances and mixtures (homogenous and heterogenous)
5.) Articulate the role of kinetic energy in relation to mass and speed and potential energy to mass and height
6.) Explain the types of energy transformations within a system (I.e.- turning on a light, etc.)
7.) Analyze the relationship between speed and distance, and velocity and acceleration
8.) Describe the relationships between wave properties and their effects
9.) Explain the distribution of charge between conductors and insulators
10.) Describe magnetic force produced by an electromagnet

Assignments/Tasks:	**Weight%**
Classwork, homework, formative assessments, Diagnostic tests, written reflections	40%
Response assessment, Selected response assessments, Reflective assessment, summative unit Assessments, culminating performance tasks, projects	40%
Final Exam	20 %
Total:	100 %

Henry County schools will observe semester grading. As a result, student grades reset in January. Therefore, students will receive a report card each semester. Grades will be updated weekly in Infinite Campus.

Late Homework Assignment:

Some of the homework assignments require work in advance of the actual due date. It is therefore important that you read the syllabus carefully and submit homework assignments on time. In the case of an absence, it is the **student's** responsibility to check the learner pathway in Google Classroom and ask the teacher for classwork assignments that were missed upon his or her return. Late work may be submitted for documentation however, points will be subject to deduction upon submission. All work is expected to be submitted on time.

Expectations/Class Participation:

Keeping up with the weekly assignments and work in addition to submitting them on time is necessary. All students are expected to maintain a friendly environment, participate, and always remain respectful. Students are expected to maintain this behavior within and outside of the classroom according to LGM's expectation for behavior. The more effort produced to meet the due dates, participate and contribute to online discussions, the more meaningful and dynamic the learning experience for all.

Lab safety guidelines will be strictly enforced. Every student will receive training in topics related to laboratory/classroom safety. All students and parents must sign and adhere to a laboratory safety contract in order to participate in laboratory activities. **Eating and drinking are not allowed in the lab area nor is it allowed in the classroom area.**

Student responsibility:

Distance learning requires more individual discipline than traditional classes and requires that you have at least some control over your time and schedule. It is not easier or less time than face-to-face courses.

After carefully reviewing the syllabus and course requirements, please complete the following Google Form acknowledging that you have read and understand the syllabus.