**8th Grade Physical Science Course Outline and Expectations:**

**Teacher:** Mrs. Brenda Burnight

Room 250

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(712)274-4030

Office Hours: 8th period M-F

**Books/ Supplies:** All students will need:

Physical Sciences – Glenco

Spiral Notebook

Folder

Colored Pencils

Ruler

Pens/ Pencils

Red Pen or Pencil

**Units of Study:**

Electrical Circuits and Design

Forces and Motion

Waves Light and Sound

**Iowa Core Standards and Learning Targets for 8th Grade Science**

**Students will be able to:**

**Science as Inquiry:**

1. *Identify* and *generate* questions that can be answered through scientific investigations.
2. *Design* and *conduct* different kinds of scientific investigations.
3. *Understand* that different kinds of questions suggest different kinds of scientific investigations.
4. *Select and use appropriate* tools and techniques to gather, analyze and interpret data.
5. *Incorporate* mathematics in scientific inquiry.
6. *Use evidence* to develop descriptions, explanations, predictions, and models.
7. *Think critically* and logically to make the relationships between evidence and explanations.
8. *Recognize and analyze* alternative explanations and predictions.
9. *Communicate and defend* procedures and explanations.
10. *Use appropriate safety* procedures when conducting investigations.

**Earth and Space**

1. *Understand and apply knowledge* of the structure and processes of the earth system and the processes that change the earth and its surface.
2. *Understand and apply* knowledge of earth history based on physical evidence.
3. *Understand and apply* knowledge of the earth’s atmospheric properties and how they influence weather and climate.
4. *Understand and apply* knowledge of the components of our solar system.

**Physical Science**

1. *Understand and apply* knowledge of:
   1. elements, compounds, mixtures, and solutions based on the nature of their physical and chemical properties.
   2. physical and chemical changes and their relationship to the conservation of matter and energy.
2. *Understand and apply* knowledge of forms of energy and energy transfer.
3. *Understand and apply* knowledge of motions and forces.

**Life Science**

1. *Understand and apply* knowledge of the basic components and functions of cells, tissues, organs, and organ systems and determine the chemical composition of living and non-living specimen.
2. *Understand and apply* knowledge of:
   1. interdependency of organisms, changes in environmental conditions, and survival of individuals and species.
   2. the cycling of matter and energy in ecosystems.

**Homework:** Homework is assigned on Monday and Due on Friday of each week.

Homework is based on the weeks assignments and reinforces concepts presented in class. Grades will be based on completed assignments, effort and complete answers.

**Grades:** Grades are cumulative by semester and based on students’ performance in the following topics:

Tests/ Quizzes 50%

Classwork/ Journals 20%

Homework 20%

Labs/ Lab participation and effort 10%

**Projects:**

Students are expected to complete two projects this year. First semester students will have a project on the Scientific Method assigned in September and due in November. Second Semester students will have a project on Atomic Structure assigned in December and due in February. Projects are calculated into homework, lab participation and tests for grading.

**Attendance**:

Students learn when they are in school. I expect to see you in our class every day. Students will be allowed 2 days grace period for each excused absence. Deadlines in science are deadlines and all projects are due on the date assigned and can be submitted by email. Students absent on Friday are expected to turn in missing assignments on the following Monday.

**Tardiness:**

1st – Warning

2nd – “Out”

3rd – “Out” + detention + parent contact

4th – “Out” + detention + parent contact/ contract

**Classroom Expectations and Behavior**

**Scientists are:**

**Supportive –** we work together as a class and keep the class productive

**Creative –** we think outside of the box to solve problems

**Intuitive –** we ask questions and use the scientific method to solve them

**Eager** – we try our best and are willing to learn new topics

**Neat –** we clean up our own areas and maintain a neat, organized class environment

**Timely –** We come to class on time and prepared to learn

**Independent –** we can complete our own work and be responsible for our own actions

**School Spirited** – we follow all EMS Rules and work together to make this a fun place to learn

**Talented –** Everyone can be a scientist, we are all talented and we can all learn

**Safe** – we make good, positive decisions and use science supplies correctly.

* Hands off Science supplies until instructed to do so.
* Food and Drink are allowed at lunch, not in a science class… YUCK we use chemicals in here!
* Wear goggles when appropriate.
* Ask first!