

Basic Information

Physical Science General/Honors

Cheryl Parliament

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School Number 334-567-1413

COURSE DESCRIPTION

Course Objectives:

By the end of this course, the student will:

- 1) Analyze patterns within the periodic table to construct models (e.g., molecular-level models, including drawings; computer representations) that illustrate the structure, composition, and characteristics of atoms and molecules.
- 2) Plan and carry out investigations to generate evidence supporting the claim that one pure substance can be distinguished from another based on characteristic properties.
- 3) Construct explanations based on evidence from investigations to differentiate among compounds, mixtures, and solutions.
- 4) Design and conduct an experiment to determine changes in particle motion, temperature, and state of a pure substance when thermal energy is added to or removed from a system.
- 5) Observe and analyze characteristic properties of substances (e.g., odor, density, solubility, flammability, melting point, boiling point) before and after the substances combine to determine if a chemical reaction has occurred.
- 6) Create a model, diagram, or digital simulation to describe conservation of mass in a chemical reaction and explain the resulting differences between products and reactants.
- 7) Design, construct, and test a device (e.g., glow stick, hand warmer, hot or cold pack, thermal wrap) that either releases or absorbs thermal energy by chemical reactions (e.g., dissolving ammonium chloride or calcium chloride in water) and modify the device as needed based on criteria (e.g., amount/concentration, time, temperature).
- 8) Use Newton's first law to demonstrate and explain that an object is either at rest or moves at a constant velocity unless acted upon by an external force (e.g., model car on a table remaining at rest until pushed).
- 9) Use Newton's second law to demonstrate and explain how changes in an object's motion depend on the sum of the external forces on the object and the mass of the object (e.g., billiard balls moving when hit with a cue stick).
- 10) Use Newton's third law to design a model to demonstrate and explain the resulting motion of two colliding objects (e.g., two cars bumping into each other, a hammer hitting a nail)
- 11) Plan and carry out investigations to evaluate how various factors (e.g., electric force produced between two charged objects at various positions; magnetic force produced by an electromagnet with varying number of wire turns, varying number or size of dry cells, and varying size of iron core) affect the strength of electric and magnetic forces
- 12) Construct an argument from evidence explaining that fields exist between objects exerting forces on each other (e.g., interactions of magnets, electrically charged strips of tape, electrically charged pith balls, gravitational pull of the moon creating tides) even when the objects are not in contact.
- 13) Create and analyze graphical displays of data to illustrate the relationships of kinetic energy to the mass and speed of an object (e.g., riding a bicycle at different speeds, hitting a table tennis ball versus a golf ball, rolling similar toy cars with different masses down an incline).
- 14) Use models to construct an explanation of how a system of objects may contain varying types and amounts of potential energy (e.g., observing the movement of a roller coaster cart at various inclines, changing the tension in a rubber band, varying the number of batteries connected in a series, observing a balloon with static electrical charge being brought closer to a classmate's hair).
- 15) Analyze and interpret data from experiments to determine how various factors affect energy transfer as measured by temperature (e.g., comparing final water temperatures after different masses of ice melt in the same volume of water with the same initial temperature, observing the temperature change of samples of different materials with the same mass and the same material with different masses when adding a specific amount of energy).
- 16) Apply the law of conservation of energy to develop arguments supporting the claim that when the kinetic energy of an object changes, energy is transferred to or from the object (e.g., bowling ball hitting pins, brakes being applied to a car).
- 17) Create and manipulate a model of a simple wave to predict and describe the relationships between wave properties (e.g., frequency, amplitude, wavelength) and energy.
 - a. Analyze and interpret data to illustrate an electromagnetic spectrum.
- 18) Use models to demonstrate how light and sound waves differ in how they are absorbed, reflected, and transmitted through different types of media.
- 19) Integrate qualitative information to explain that common communication devices (e.g., cellular telephones, radios, remote controls, Wi-Fi components, global positioning systems [GPS], wireless technology components) use electromagnetic waves to encode and transmit information.

Required Student Resources

Two composition books, colored pencils, glue sticks, blue/black pen and pencils*.

WISH LIST: \$ 10.00 Donation Glue sticks
 Kleenex Band-Aids'
 Hand sanitize Paper towel

Course Schedule/Outline/Calendar of Events

1st Quarter

Unit 1: General Skills

Unit 2: Properties of Matter

2nd Quarter

Unit 3: Periodic Table

Unit 4: Bonding

3rd Quarter

Unit 5: Types of Motion & Forces

Unit 6: Types of Energy

Unit 7: Types of Waves

4th Quarter

Unit 8: Gravity

Unit 9: Types of Friction

Unit 10: Newton's Laws

Unit 11: Magnetism

EVALUATION PROCEDURES & GRADING CRITERIA

Ex. Daily Grades (Quizzes, Writing Assignments, & Bell Ringers/Exit Slips)	50% of final grade
Test Grades (Tests & Projects)	50% of final grade

Late Work Policy

Late work will be deducted 5% per day from original due date.

Attendance statement

If you are absent, you are responsible for obtaining the assignments, handouts, etc. (all handouts will be in your Bell Ringer pocket waiting for your return to school). In order to get make-up work, you must turn in an excuse for your absence within 3 days. Also, you must make arrangements with me to make up assignments within 3 school days. Students who are not in the classroom when the bell rings are considered tardy. Tardies will be recorded and handled according to the Elmore County Student Code of Conduct. Four tardies to class will result in a detention. Tardies start over each nine weeks.

EXEMPTION POLICY

- Students in grades seven (7) through twelve (12) may exempt semester examinations if they meet the following criteria:
 - An "A" average with no more than 2 absences
 - A "B" average with no more than 1 absence
 - A "C" average with no absences
- Any student who has skipped either a class period or a school day, been assigned to in-school suspension or detention for 5 or more days, been suspended, or been assigned to the Elmore County Alternative Program

(ECAP) will forfeit the opportunity to exempt any final examination regardless of grade average. Three unexcused tardies to class will forfeit exemption status in that class.

- Please note: School authorized field trips, a college day (with proper documentation), and military absences (with proper documentation) do not count as absences towards exemptions.

COMMUNICATION

E-mail is the easiest way for me to connect with parents. Please allow 24-48 hours for an email response. My email address is: cheryl.parliament@elmoreco.com

However, do not hesitate to call the school to speak with me or schedule a conference.

My Remind code for General Physical Science is @mspsph and Honors Physical Science is @pshono. Test this code to 81010 to join the information group on Remind. I will send out messages often.

*Please note: Remind Chat will not be available. Please contact me via email.

Classroom Guidelines, Policies & Procedures

Class Expectations/Rules

1. Be respectful. (of others, classroom materials & yourself)
2. Be responsible (of others, classroom materials & yourself)
3. Safety FIRST!

I have bathroom passes for each student. They have five (5) per nine weeks. Exceptions for emergencies and medical needs. The medical needs student must have a note on file.

Consequences:

1. Verbal warning.
2. Parental/Guardian contact.
3. Parental/Guardian conference
4. Referral to administration.