8th Grade Physical Science Syllabus
Teacher: Ms. T. Rambo, M.Ed

Contact Information:
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Remind: Codes per homeroom attached

Course Objective: The Eighth Grade Georgia Standards of Excellence for science are designed to give all students the necessary skills for a smooth transition from elementary physical science standards to high school physical science standards. The purpose is to give all students an overview of common strands in physical science including, but not limited to, the nature of matter, conservation of energy, energy transformations, conservation of matter, kinematics, and dynamics. These standards are not intended in any way to take the place of the high school physical science standards.

Content:
Unit 1 - Properties & States of Matter/Phase Changes
Unit 2 - Atomic Structure & The Periodic Table
Unit 3 - Classification & Interaction of Matter
Unit 4 - Energy & Its Transformations
Unit 5 - Waves
Unit 6 - Force and Motion
Unit 7 - Electricity & Magnetism

Grading Weights:
50% Daily Assignments
50% Tests/Quizzes

Textbook:
HMH Georgia Science
(hard copy workbook & digital book)
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Grading Scale:
90 - 100 A
80 - 89 B
70 - 79 C
69 and Below F

Science Notebook: The students will keep all anchor charts, graphs, notes, etc for each unit of study in the provided Composition notebooks. The notebook will be used as a study guide for each unit. The notebook will be assessed throughout the year by a series of notebook checks. Students will only receive one notebook from Ms. Rambo. Parents/Guardians are responsible for replacing lost notebooks. Please encourage your student(s) to bring their notebook to class each day.

Late Work: Late work will be accepted no later than three school days after the due date. Further late days will result in a penalty of 5 points per day. All extended projects will be graded based on the guidelines in the grading rubric provided for each project.

It's okay to not know, but it's never okay to not try…

Absent Work Procedure: If a student must be absent, it is his/her responsibility to obtain absent work and complete the work upon their return. The number of days given for absent assignments will be determined by the number of days absent.

Homework Expectations: Students are expected to read over their notebook for the current day(s). Reading over the notes outside of class helps students be successful and creates excellent study habits.

Projects: Students will have a major project per 9 weeks (4 for the school year). Students are expected to complete at least 50% of the project in class. Parents/Guardians are allowed to help with the remaining 50% at home. Projects can vary depending on homerooms.

Instructional Philosophy: It is my mission to instill a yearning for learning in my students and to teach with a passion for science so that students develop a desire to become life-long learners. Educational support from parents/guardians would be greatly appreciative because student success is our top priority.

Classroom Expectations:

1. Respect yourself, the teacher & others
    - Show respect for the teacher, yourself, and others at all times.
    - Respect others' property. Avoid touching or writing on anything that does not belong to you (including desks, textbooks, teacher's belongings, walls, chalkboard, etc.). Don't expect that others will clean-up your messes. Please pick-up after yourself.
    - Respect yourself and the rest of us by using appropriate language and wearing appropriate clothing.
    - Be a kind person.
    - NO BULLYING WILL BE ALLOWED

2. Put forth your best effort at all times
    - Always do your own best work.
    - Put learning ahead of getting good grades.
    - Put quality ahead of just getting it done.

3. Be prepared for class each day
    - Come prepared with all materials necessary:
        - Composition notebook
        - Pencils, color pencils, scissors, and glue/glue stick

4. Follow directions when given
    - When directions are given, do your best to follow them the first time. If you are confused or have questions, raise your hand and ask. I would rather have you stop class to clarify than be off task while everyone else is working.

It's okay to not know, but it's never okay to not try…

5. Pay attention, participate, and ask questions
    - Engage in what is going on in the classroom. If you have a question, ask it! Otherwise, I might not know until the test that you did not understand something. There are no stupid questions, and chances are, if you are wondering about it, someone else in the class is to. **Be proactive about your learning and don't be afraid to ask for help.**

6. Preserve a positive learning environment
    - Student actions that interfere with teaching or learning in the classroom will NOT be tolerated.
    - Use class time to learn science. Please do not spend your time grooming, sleeping, talking, writing notes, sending Google Chats or Emails, or doing work for other classes.
    - Offensive, derogatory, and profane terms are not tolerated. In order to have a safe classroom environment where all students feel comfortable, no put downs, swear words, or slang words with demeaning connotations will be accepted. **Remember, if you don't have something nice to say, don't say it at all!**

7. Take responsibility for your actions
    - If you are confronted about a rule infraction and guilty, own up to it. Don't deny it, lie about it, or blame someone else.
    - Take responsibility for missed assignments.
    - All handbook rules will be enforced. Please read your handbook. Students that choose to break these rules, face the possibility of additional consequences.

<u>Google Classroom is still a CLASSROOM:</u>

- Assignment Information: Check/Work each class daily. Some assignments are for grades while others are for building knowledge. All assignments are IMPORTANT. Please remember to click "turn-in/submit" on assignments.

<u>Academic Dishonesty:</u> Plagiarism, taking someone else's work and identifying it as your own, is not allowed. Students are not allowed to copy and paste from websites. When this occurs, a parent will be contacted and the student can earn a zero. The student may earn a 60 if they acceptably completes the assignment within a week of parent contact.

8th Grade Physical Science
Learning Targets

<u>Unit 1: Properties and States of Matter (S8P1b,c,d S8P2d)</u>
I can. . .

1. Describe the movement of particles in solids, liquids, gasses, and plasma states when thermal energy is added or removed
2. Compare and contrast chemical and physical properties of matter
3. Classify changes in matter as chemical or physical.
4. Investigate the effects of heat transfer and relate it to molecular motion (conduction,

convection, radiation).

Unit 2: Atomic Structure and the Periodic Table (S8P1a,e)

I can…

1. Compare and contrast pure substances and mixtures by using models.
2. Develop models of atoms and simple models by using patterns within the periodic table.

Unit 3: Classification and Interaction of Matter(S8P1 a,d,f)

I can…

1. Compare and contrast pure substances and mixtures by using models.
2. Classify changes in matter as chemical or physical.
3. Describe conservation of matter in a chemical reaction (include differences between reactants and products).

Unit 4: Energy and Its Transformations (S8P2 a,b,c)

I can. . .

1. Explain the transformation between potential and kinetic energy in a system.
2. Create graphs that illustrate the relationship between kinetic energy and mass & speed.
3. Create graphs that illustrate the relationship between potential energy and mass and height.
4. Explain energy transformations within a system.

Unit 5: Waves (S8P4 a,b,c,d,e,f,g)

I can…

1. Compare and contrast electromagnetic and mechanical waves.
2. Explain the relationship between electromagnetic spectrum and energy.
3. Illustrate practical applications of the electromagnetic spectrum by designing a device.
4. Compare and contrast how light and sound waves are reflected, refracted, absorbed, diffracted or transmitted through various materials.
5. Predict patterns in the relationship between density of media and wave behavior (speed).
6. Predict and describe the relationships between wave properties (frequency, amplitude, wavelength) and energy.
7. Demonstrate the effects that lenses have on light and their possible applications.

Unit 6: Forces & Motion (S8P3 a, b, c & S8P5 a)

I can. . .

1. Identity patterns in the relationships between speed and distance, and velocity and acceleration.
2. Use Newton's Laws of Motion to describe the effects of balanced and unbalanced forces on the motion of an object.
3. Explain how the amount of force needed to accelerate an object is proportional to its mass (inertia).
4. Describe how fields (magnetic fields, gravitational fields, & electric fields) affect objects.

Unit 7: Electricity and Magnetism (S8P5 a, b, c)

I can. . .

1. Describe how fields (magnetic fields, gravitational fields, & electric fields) affect objects.
2. Demonstrate the distribution of charge in conductors and insulators.
3. Identify factors that affect the strength of the electric and magnetic forces.