Physical Science Syllabus 2017-2018

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Mission Statement:

Thomas County Central High School is committed to all students graduating as productive citizens in a global society.

Course Description:

The Physical Science curriculum is designed to continue student investigations of the physical sciences that began in grades K-8 and provide students the necessary skills to have a richer knowledge base in physical science. This course is designed as a survey course of chemistry and physics. This curriculum includes the more abstract concepts such as the conceptualization of the structure of the atoms, motion and forces, and the conservation of energy and matter, the action/reaction principle and wave behavior. Students investigate physical science concepts through experience in laboratory and field work using the processes of inquiry. **Important Note:** This class takes the **Physical Science Georgia Milestones** scheduled in the Spring Semester.

Requirements:

Your involvement in your own success is your decision. These are my suggestions to help you learn the required material and learn to study not only for this class, but also for all classes.

- **A 2 inch 3 Ring Binder**. I will supply you will note packets and graphic organizers to help you learn to take notes during each unit. This is where you will keep your materials for the course.
- **Notebook Paper**. You will be taking notes you will need paper for. I prefer that you use college rule.
- **Pens, Pencils, Colored Pencils and a Highlighter**. You are free to take notes in any color you find helpful, but blue or black ink is preferred for assignments that are turned in. It may be helpful for you to keep these items in a zippered pouch in your notebook.
- **A hi-polymer gum eraser**. Everyone makes mistakes. If you make a mistake that requires a lot of erasing, it is best to have an eraser that does not mess up the paper.
- **A Calculator**. Bring the calculator that you use for your math class.
- **A pocket pencil sharpener** (not required, but suggested).
- **3 hole punch with binder attachment** (not required, but suggested).

Standards Based Instruction:

This course will include information in compliance with the Georgia Standards of Excellence (GSE)/Common Core Georgia Performance Standards. For complete coverage of this course's standards, please see the standards given on the first day of school, or visit https://www.georgiastandards.org/.

SPS1. Obtain, evaluate, and communicate information from the Periodic Table to explain the relative properties of elements based on patterns of atomic structure.
SPS2. Obtain, evaluate, and communicate information to explain how atoms bond to form stable compounds.
SPS3. Obtain, evaluate, and communicate information to support the Law of Conservation of Matter.
SPS4. Obtain, evaluate, and communicate information to explain the changes in nuclear structure as a result of fission, fusion and radioactive decay.
SPS5. Obtain, evaluate, and communicate information to compare and contrast the phases of matter as they relate to atomic and molecular motion.
SPS6. Obtain, evaluate, and communicate information to explain the properties of solutions.
SPS7. Obtain, evaluate, and communicate information to explain transformations and flow of energy within a system.
SPS8. Obtain, evaluate, and communicate information to explain the relationships among force, mass, and motion.
SPS9. Obtain, evaluate, and communicate information to explain the properties of waves.
SPS10. Obtain, evaluate, and communicate information to explain the properties of and relationships between electricity and magnetism.

Textbook:

Physical Science, Holt (replacement cost $45.30). A classroom set is used. Students can check out a textbook upon request.

Reading in the Curriculum Area:

As part of our content standards, all students will be required to read content related material to enhance the curriculum. Reading requirements include current science articles and *The Physics of Superheroes* by James Kakalios. This will be assigned during the 3rd nine weeks grading period. An outside project and reading assignment will be required.

Units of Study:

First Nine Weeks:
- The Periodic Table, Atoms and Bonds
- Conservation of Matter
- Balancing Equations

Second Nine Weeks:
- Solutions, Acids and Bases
- Nuclear Chemistry
- Energy and Heat

Third Nine Weeks:
- Force, Work and Motion
- Gas Laws
- Waves, Light and Sound

Fourth Nine Weeks:
- Electricity and Magnetism
- Milestrones

Expectations:

Be on time to class:
- Do not be tardy to class without a note.
- If you know you will be absent, let me know ahead of time so that I can help not get behind.
- If you are home sick, let me know.

Be ready to learn:
- Have your homework done.
- Turn in your assignments on time.
- Do your best to remain on task.
- Be an active participant in class.

Make good choices:
- Stay out of ISS and OSS.
- Show respect to yourself and your classmates.
- Follow the dress code and the appropriate rules for lab.

If students do not meet the class expectations, the teacher will follow the course of action below:
- 1st Offense – Teacher/Student Conference
- 2nd Offense – Parent Contact/Teacher Detention
- 3rd Offense – Referral to Administration

Cell Phone Policy:

Cell phones will not be allowed in the classroom, except for educational purposes.

Lab Rules:

You must follow all of the regulations provided to you in the lab rules as well as any additional rules either written or verbal. It is important that you follow my instructions at all times during lab. This is not to hinder your creativity, but rather to keep you alive and non-disfigured. If you do not follow lab rules, you can be excused from lab and given a grade of a zero (0) for that lab.

Absences:

You are always responsible for any material that you miss for any reason of absence. Although most information will be available to you through my google classroom, it is good practice for you to still check with me regarding your absence. It is in your best interest to get your assignments turned in ahead of any upcoming absences.

Grading:

You will have plenty of opportunity to increase or maintain the grade that you chose at have. What you make in this class is up to you.

Tests are worth 30%
Labs and Projects are worth 30%
Classwork, quizzes, daily grades and forms are worth 30%.
Benchmarks (9 weeks exams) are worth 10%

Tutoring:

I am available to help students most afternoons, depending on other addition duties and responsibilities I may have as a teacher. Please arrange for tutoring with a 24 hour notice so that I can make sure to be available for you.

Communication:

I ask that you come to me, first, whenever there is something that needs to be handled. Give me an opportunity to fix the situation, grade, misunderstanding, etc. If we cannot fix it together, we will go to the next step, together.

"In the spirit of science, there really is no such think as a 'failed experiment.' Any test that yields valid data is a valid test."

-Adam Savage, *Mythbusters*