Physical Science Syllabus

Mrs. Cluck

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**Program Summary**

 Students will engage in a variety of learning experiences using technology and traditional approaches: group work, partner collaboration, projects, hands-on activities, online research, and more. The teacher and students will work together to make each class productive, rigorous, and engaging.

**Course Description**

 Physical Science involves the study of the structures and states of matter. This course is an introductory course to chemistry, physics, and earth and space. Topics to be addressed are forms of energy, wave phenomenon, electromagnetism, and physical and chemical interactions and reactions, matter, and the periodic table.

**Required Text**

* Inspire Physical Science McGraw Hill

You will not have a book checked out to you. When the text is needed you may check out a book from me to borrow.

* There is also an online version of the text that you will have access to located on the classroom site.

**Required Materials**

* Pencil/Pen/ Highlighter
* Computer
* Library book
* Textbook (as needed)
* Paper/ Notebooks

**Participation Points**

 I will give participation points (2) each day of class. These points will be given based on attendance, behavior, preparedness, participation and attitude. Loss of participation points will be due to failure to participate and a failure in any of the above mentioned categories.

**Absences:** If you miss a class due to an absence, you may make up those participation points. You must make them up within the week before the grade is posted on Friday. To make up participation points, come and check in with me to see what you missed or will be missing. You are responsible for finding out what you missed following an absence or before.

 **Teacher absent**: It is your responsibility to check the classroom site for your assignment.

**Grades**

| **A** | 90-100 |
| --- | --- |
| **B** | 80-89 |
| **C** | 70-79 |
| **D** | 60-69 |
| **F** | 0-59 |

**Homework/Quizzes/Tests**

 There will be a variety of different assignments, projects, and quizzes throughout the year. There will be a test after each chapter. The test format may have different styles to it like multiple choice, short answer, true or false, or essays.

**Late Work**

All work is due as assigned. Assignments not turned in on the due date may be turned in for up to half-credit on the class period following the due date. Thereafter, no credit will be given for assignments not turned in. \*Teacher discretion may be used

**Students will have one day for each day absent to make up their work.**

**Classroom Rules and Expectations**

* Respect yourself, others, and the classroom environment
* Come to class prepared and ready to learn
* Pay attention and be an active participant

**Student Handbook Policies**

1. **Cell Phones**

Students are required to check in their device in the “phone locker”. They will not be allowed in the classroom

1. **Cheating**

 Cheating will not be tolerated in my classroom. If you are caught cheating you will receive a 0 for that assignment. Do you own work!

1. **Food/ Drink**

 There will absolutely be no food or drink allowed in the classroom. Bottled water only.

1. **Other Policies**

 Make sure to follow all school policies in your student handbook. These will be enforced through the year.

**Course Overview**

| **Unit** | **Topics Addressed** | **Standards** |
| --- | --- | --- |
| **Unit 1:** Nature of Science | 1. Methods of Science2. Standards of 3.Measurements - SI units4. Using and reading graphs5. Science and technology |   |
| **Unit 2:** Motion, Forces, and Newton’s Laws | 1. Describing motion2. Velocity and Momentum3. Acceleration4. Forces, unbalanced, and balanced5. Newton’s laws of Motion6. Using the laws | HS-PS2-1HS-PS2-2HS-PS2-3 |
| **Unit 3:** Work, Energy, and Thermal Energy | 1. Work and machines - simple and complex2. Describing energy3. Conservation of energy4. Thermal energy descriptions5. Conduction, Convection, and radiation6. Using thermal energy | HS-PS2-1HS-PS2-2HS-PS2-3HS-PS3-3 |
| **Unit 4:** Electricity and Magnetism | 1. Electric charge2. Electric current3. Circuits - simple, complex, schematic diagrams4.Magnetism and electricity5. Producing electric current | HS-PS2-4HS-PS2-5 |
| **Unit 5**: Energy Sources and the Environment | 1. Fossil Fuels2. Nuclear Energy3. Renewable and Nonrenewable energy sources4. Environmental impacts | HS-PS3-4HS-PS3-5 |
| **Unit 6:** Waves, Sound, and Electromagnetic waves | 1. Nature of waves2. Wave properties3. Behavior of waves4. Nature and properties of sound5. Electromagnetic waves6. Electromagnetic spectrum | HS-PS3-1HS-PS3-2HS-PS4-1HS-PS4-2HS-PS4-3HS-PS4-4HS-PS4-5 |
| **Unit 7:** Light, Mirrors, and Lenses | 1. Behavior of light2. Light and color3. Producing and using light4. Mirrors, lenses, and optical instruments | HS-PS4-1HS-PS4-2HS-PS4-3HS-PS4-4HS-PS4-5 |
| **Unit 8:** Solids, Liquids, Gases, and Classification of Matter | 1. Matter 2. Composition and Properties of Matter3. Properties of Fluids4. Properties of Gases | HS-PS1-1HS-PS1-3 |
| **Unit 9:** Atoms, Elements, and the Periodic Table | 1. Structures and masses of the atom2. Periodic table3. Elements and their properties4. Metals, Nonmetals, mixed groups | HS-PS1-1HS-PS1-3HS-PS1-8 |
| **Unit 10:** Chemical Bonds and Reactions | 1. Types of bonds2. Stability in bonding3. Writing formulas and naming compounds4. Chemical changes5. Classifying chemical reactions6. Chemical reactions, energy, and reaction rates | HS-PS1-1HS-PS1-2HS-PS1-6HS-PS1-7 |
| **Unit 11:** Radioactivity and Nuclear Reactions | 1. Nucleus of the atom2. Nuclear decays and reactions3. Radiation technologies and applications | HS-PS1-8 |
| **Unit 12:** Solutions, Acids, Bases, and Salts | 1. Forming solutions2. Concentration and solubility3. Particles in solution, acids and bases4. Strength of acids and bases5. Salts | HS-PS1-1HS-PS1-2HS-PS1-6HS-PS1-7 |
| **Unit 13:** Intro to Organic Chemistry | 1. Simple organic compounds2. Substituted hydrocarbons3. Petroleum and biological compounds | HS-PS1-1HS-PS1-2HS-PS1-6HS-PS1-7 |
| **Unit 14:** New Materials through Chemistry | 1. Alloys2. Versatile materials3. Polymers and Composites | HS-PS3-1HS-PS3-2HS-PS4-1HS-PS4-2 |

\*\*Syllabus is subject to change