

Integrated Physics and Chemistry

Course Syllabus – Mr. Fincher

Course Description: Integrated Physics and Chemistry (IPC) is an introductory, laboratory-based course in which students explore fundamental chemistry and physics principles. Students enrolled in this course examine, through the process of scientific inquiry, the structure and properties of matter, chemical reactions, forces, motion, electricity, and the interaction between energy and matter. Working in a laboratory environment, students investigate the basics of chemistry and physics. This course is based on the Texas Essential Knowledge and Skills (TEKS) for IPC. The course will conclude with an introduction to Biology.

Students will complete lab investigations as well as individual and group assignments. Each student will compile a scientific journal during class. Each unit will include formative assessments and will be finalized with a unit assessment.

Essential Outcomes:

Students will understand and explain:

1. The fundamental concepts of scientific inquiry
2. The basic principles of motion
3. The basic principles of the forces in nature
4. The interactions between energy and matter
5. The basic principles of electrical circuits
6. Basic structural and physical properties of matter
7. The distinction between chemical and physical changes in matter
8. Chemical reactions and factors affecting reaction rates

Expectations of Student Work:

- If a student should happen to be absent, it is the student's responsibility to make-up any missed work (notes, labs, worksheets, etc.)
- **If you are absent 1 day, then you missed an equivalent of 2 days from last year.**
- Copying another student's work, dishonesty on quizzes/tests, or misbehavior during laboratory sessions will result in a "0" for your grade on that task

Student Assessment:

Student grades will be calculated using the following method:

Formative (classwork, labs, homework, etc.) – 60% Summative (unit tests, etc.) – 40%

Required Daily Materials:

Writing utensil (**NO** red, orange, or pink ink), IPC Journal – Composition journal works best

Course Content:

Physics

Metric Measurement
Position, Speed & Acceleration
Force & Momentum
Potential & Kinetic Energy
Thermal Energy
Waves
Light & Optics
Electricity

Chemistry

Properties of Matter
Elements & the Periodic Table
Chemical Reactions
Solutions
Nuclear Chemistry
Energy Resources

Biology Preview

Mr. Fincher's Mission Statement:

Your success is my number one objective. I want to share my love for learning, and especially science, with all my students. This room will be a safe, productive learning environment. We will work together for the success of all.

Classroom Expectations:

You are expected to conduct yourself as a mature high school student with common sense, courtesy, and good taste. Any conduct which results in the disruption of normal classroom activities will not be permitted, and appropriate disciplinary action will be taken.

1. Respect – for yourself, your peers, your class, and your school
2. Responsibility – don't waste time, complete your work, and ask for help when you need it
3. Safety – follow all rules and watch out for each other
4. Integrity – show pride in yourself and the work you do

Laboratory Safety:

1. Take all lab work seriously. All written and verbal instructions must be followed to maintain a safe environment for yourself and others.
2. Only perform teacher-authorized experiments. Never open cabinets/drawers, or operate sink/gas without permission.
3. Wear safety equipment as instructed.
4. Know the locations of all safety equipment in the room.
5. Report ANY accident, injury, or broken equipment to the teacher immediately.
6. NO EATING or DRINKING during labs (this includes gum chewing). Food is prohibited in this room unless given permission. Water bottles must not be in the proximity of lab stations. Chemical and biological hazards exist.
7. Keep your work area clean, dry, and throw all trash in appropriate containers.
8. Breaking any of the above guidelines will result in disciplinary action, removal from the lab environment, and potentially receiving a "0" on the lab.

