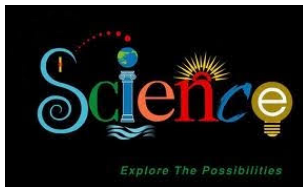


# Integrated Science 9



Instructor: **Mr. Adams**

Course Number: 0124

E-mail: [adams@freeport.k12.pa.us](mailto:adams@freeport.k12.pa.us)

Remind App Join Code: fhssci9

## Course Description

In Integrated Science, students will explore the many disciplines related to our planet and its geologic, physical, chemical, and biological processes. It will contain a variety of activities based on the structure and changes of matter and energy and how they affect the physical world in which we live. The topics studies will include introductory concepts from Chemistry, Physics, Earth and Space, and Environmental Science. In the simplest terms, Integrated Science will be a combined study of what things are made of and how they change naturally with time on this planet.

## Classroom Materials

It is the students' responsibility to come prepared to each class period with all required classroom materials. Those materials include the following:

1. One composition book for daily openers and warm-up activities.
2. Three-ring binder (preferably 1.5 inch) in order to store classroom materials handed out by the instructor.
3. Writing utensils including pencils and/or pens. Be aware, certain labs may require you ONLY use a pencil!
4. Colored pencils for various lab activities and projects.
5. Scientific calculator (does not need to be a graphing one).

## Classroom Rules

When in the classroom, it is important students act as young, responsible adults. This can be achieved by following some basic classroom rules including the following:

- **RESPECT** – One of the most important rules in the classroom is respect. You are to respect your fellow classmates and the instructor at ALL times.
- **BE PREPARED** – Come to class prepared each and every day with a writing utensil, homework assignments, and your binder. Failure to do so will result in a point deduction from the final participation grade at the end of the 9 weeks.
- **RAISE YOUR HAND** – If you wish to speak or get out of your seat during class time, raise your hand and the instructor will get to your comment/question. Do not interrupt the instructor or another student while they are talking.
- **SIGN OUT** – If you are granted permission to leave the classroom, you must sign out using the appropriate sign out sheet and take the hall pass with you issued by the instructor. Upon re-entering the classroom, do so quietly and sign back in. If a continuous pattern develops of leaving the room, you may be asked to wait until after class.
- **NO FOOD OR DRINK** – Properly dispose of any food or drinks prior to entering the classroom. Bottled water and gum will be permitted during CLASS time unless they become a problem. No food or drinks are permitted in the LAB at any time.
- **SCIENCE ONLY** – Since this is an Science class, it is unacceptable to work on other subjects during this designated class time unless given permission from the instructor. Cell phones and iPods are NEVER permitted in class.

## Tardiness

All students need to be seated in the classroom by the time of the bell. Any student not doing so will be considered late. Students having a late pass will be excused by handing the pass to the instructor and quietly sitting in their assigned seat. Students without a late pass will be considered TARDY:

1. 1st tardy – Verbal warning
2. 2nd tardy – 5 points will be deducted from the final participation grade at the end of the 9 weeks
3. 3rd tardy (and more) – Additional 5 points will be deducted from the final participation grade at the end of the 9 weeks; discipline referral will be sent to the office for detention to be assigned

## Attendance

In order to take the maximum amount of information away from this or any class, it is imperative to attend class every day. If a student is absent, IT IS THE SOUL RESPONSIBILITY OF THE STUDENT to retrieve any missed work, notes, or handouts. Extra handouts and worksheets will be in a separate bin near the classroom door. The student who was absent can see the instructor if a lab, quiz, or test is needed for make-up. If work was due on the day of an absence, it is due the day of return. If work was completed during the day of an absence, the general rule is: 1 DAY ABSENT = 1 DAY TO MAKE IT UP!

## Late Work

All assignments are due at the beginning of the class period. Any work not turned in at that time will be counted as late work. Students will be given plenty of time to complete all assignments, therefore, I expect all work to be handed in on time. Late work will be given up to a 50% grade reduction. Failure to turn in any work by the end of a unit will result in a “0” (zero) for the assignment.

## Tutoring

I am willing to assist any student who desires additional help with a specific topic throughout this course. Schedule an appointment with me and we will work out any problems you may have. I am available most days either before school, after school, or during my planning period. Tell me when you are coming, and I will write you a pass for that time.

## Grading System

The following grade school has been implemented by the Freeport Area School District and will be used on all graded materials throughout this course:

|            |          |
|------------|----------|
| 91% - 100% | <b>A</b> |
| 81% - 90%  | <b>B</b> |
| 70% - 80%  | <b>C</b> |
| 60% - 69%  | <b>D</b> |
| 0% - 59%   | <b>F</b> |

Any decimal place at 0.50 or higher will be rounded up during the entirety of this course. The following classroom items will be graded throughout this semester. Students are responsible for making sure they turn in and complete all necessary work:

- TESTS: There will be one test at the conclusion of every unit we cover throughout the semester.
- QUIZZES: Announced and unannounced (pop-quizzes) will be given throughout each unit of study.
- LAB REPORTS: We will complete at least one lab per unit of study throughout the course.
- HOMEWORK: Homework will be given on a weekly basis and a due date will be assigned at that time.
- IN-CLASS ACTIVITIES: We will do a variety of in-class activities independently and in small groups.
- OPENERS: Your opener composition book will be collected every two units for grading.
- FOLDERS: Your 3-ring binder containing notes, handouts, etc. will also be collected every two units.
- PARTICIPATION: Your participation and attentiveness in the classroom will be measured and graded.
- FINAL EXAM: Your final exam will be a cumulative exam at the end of the semester covering all units.

## Integrity

It goes without saying that all students should act with the utmost integrity at all times throughout the course of the semester. Cheating will not be tolerated by the instructor or the Freeport Area School District. Students found cheating, copying, or plagiarizing in any way will receive a "0" (zero) for the assignment, a discipline referral will be sent to the office for detention to be assigned, and parents will be notified.

## Student Handbook

The rules and guidelines listed above are adapted from the student handbook. All rules and regulations listed in the student handbook will be strictly enforced in this course. For any items not covered by this syllabus, please refer to the student handbook.

## Discipline

It is my philosophy to extend to you both my respect and my greatest effort as an instructor. I ask only for the same in return, both for myself and for your classmates. Discipline problems will not be tolerated! Student Discipline problems will be solved by the following: student / teacher conference; office referral; teacher / parent phone call and/or conference.

**Citizenship Guidelines:** I will assign a citizenship grade to students on report cards. The following criteria shall be used in determining a student's citizenship grade for each 9-week grading period:

1. Attends class regularly
2. Comes to class on time.
3. Comes to class with necessary materials.
4. Completes homework assignments.
5. Meets deadlines.
6. Does his/her own work when independent work is required; does not cheat.
7. Exercises reasonable care of school property.
8. Shows respect for others.
9. Does not disrupt class; exercises good conduct.

## Restroom/Drinks/Locker

You will be excused to the restroom during the first and last five minutes of class only! In addition, students are not allowed to leave the classroom more than twice during a given week unless it is an emergency. You will not be permitted to go to the restroom, a locker, or the water fountain unless it is an emergency or you have completed all work to my satisfaction during class. Come to class prepared! If a pattern of use is established, you will be asked to sit down! In order to maintain restroom privileges, you must correctly fill out the restroom sign-out sheet at the front of the room and take the classroom hall pass.

## Cell Phone / Personal Technology Use

Cell Phone Use Guidelines:

1. Cell phones and associated technology have a place in the classroom when used appropriately and serve as a classroom aid, not distraction.
2. Cell phones are only to be used as directed by the teacher during instruction and/or laboratory exercises.
3. If asked to put your cell phone away, the student will do so politely without incident. If a second warning is necessary, the student will place their cell phone on the teacher's front desk and retrieve it at the end of the period. If a third warning is required, the student will be written up for improper use of a cell phone during class.
4. Headphones, AirPods, earphones, EarPods or earbuds of any type are not to be used during class unless permission is given by the teacher on a case by case basis.
5. **Student use of class outlets for charging of their cell phone is not permitted. Do not ask!**

## Course Outline

### Unit 1: Foundations of Science

1. Technology, Science, and Scientific Measurement
2. Earth as a System
3. Mapping Techniques

### Unit 2: Properties & States of Matter

1. Classifying Matter
2. Physical & Chemical Properties
3. Phase Changes
4. Gas Laws

### Unit 3: Atomic Structure & The Periodic Table

1. Structure of the Atom
2. Modern Atomic Theory
3. Organization & the Modern Periodic table
4. Representative Groups

### Unit 4: Chemical Bonds & Chemical Reactions

1. Bonding Types
2. Naming Compounds and Writing Formulas
3. Types of Reactions
4. Reaction Rates and Equilibrium

### Unit 5: Solutions, Acids and Base

1. Formation of Solutions
2. Solubility and Concentration
3. Properties & Strengths

### Unit 6: The Earth's Interior (Part 1)

1. Earth Materials
2. Historical Geology

### Unit 7: The Earth's Interior (Part 2)

1. Geomorphology
2. Seismology & Volcanology

### Unit 8: The Earth's Surface

1. Hydrology
2. Hydrogeology

### Unit 9: Weather & Climate

1. Meteorology
2. Climatology

### Unit 10: The Solar System & Exploration

1. Origins of Astronomy
2. Earth-Moon System
3. Solar System
4. Sun, Stars and the Universe

### Unit 11: Motion and Forces

1. Distance & Displacement
2. Speed, Velocity and Acceleration
3. Forces (Newton's Laws & Universal Forces)
4. Forces in Fluids

### Unit 12: Work, Power & Machines

1. Work and Power
2. Mechanical Advantage
3. Simple Machines

### Unit 13: Energy

1. Forms of Energy
2. Conversion and Conservation
3. Thermal Energy and Heat

### Unit 14: Mechanical Waves & Sound

1. Mechanical Waves
2. Properties and Behaviors of Waves
3. Sound and Hearing

\*Course outline and schedule are subject to change at the instructor's discretion.

# Lab Safety Contract

***Science is a hands-on laboratory class. Students will be doing many laboratory activities that may require the use of chemicals, laboratory equipment, and other items which, if used incorrectly, can be hazardous. Safety in the science classroom is the number 1 priority for students, teachers, and parents. To ensure a safe science classroom, a list of rules has been developed and provided to you in this student safety contract. These rules must be followed at all times.***



## **GENERAL GUIDELINES**

1. Conduct yourself in a responsible manner at all times in the laboratory.
2. Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ASK YOUR TEACHER BEFORE PROCEEDING WITH THE ACTIVITY.
3. Never work alone in the laboratory. No student may work in the science classroom without the presence of the teacher.
4. When first entering a science room, do not touch any equipment, chemicals, or other materials in the laboratory area until you are instructed to do so.
5. Perform only those experiments authorized by your teacher. Carefully follow all instructions, both written and oral. Unauthorized experiments are not allowed.
6. Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverages.
7. Be prepared for your work in the laboratory. Read all procedures thoroughly before entering the laboratory. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
8. Always work in a well-ventilated area.
9. Observe good housekeeping practices. Work areas should be kept clean and tidy at all times.
10. Be alert and proceed with caution at all times in the laboratory. Notify the teacher immediately of any unsafe conditions you observe.
11. Dispose of all chemical waste properly. Never mix chemicals in sink drains. Sinks are to be used only for water. Check with your teacher for disposal of chemicals and solutions.
12. Labels and equipment instructions must be read carefully before use. Set up and use the equipment as directed by your teacher.
13. Keep hands away from face, eyes, mouth, and body while using chemicals or lab equipment. Wash your hands with soap and water after performing all experiments.
14. Experiments must be personally monitored at all times. Do not wander around the room, distract other students, startle other students or interfere with the laboratory experiments of others.
15. Know the locations and operating procedures of all safety equipment including: first aid kit(s), and fire extinguisher. Know where the fire alarm and the exits are located.
16. Know what to do if there is a fire drill during a laboratory period; containers must be closed, and any electrical equipment turned off.

### **CLOTHING**

17. Any time chemicals, heat, or glassware are used, students will wear safety goggles. NO EXCEPTIONS TO THIS RULE!
18. Contact lenses may need to be removed under certain circumstances.
19. Dress properly during a laboratory activity. Long hair, dangling jewelry, and loose or baggy clothing are a hazard in the laboratory. Long hair must be tied back, and dangling jewelry and baggy clothing must be secured. Shoes must completely cover the foot. No sandals allowed on lab days.
20. On announced days, you may be requested to wear a "junk" shirt in the lab setting to protect valuable clothing.

### **ACCIDENTS AND INJURIES**

21. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the teacher immediately, no matter how trivial it seems. Do not panic.
22. If you or your lab partner is hurt, immediately (and loudly) yell out the teacher's name to get the teacher's attention. Do not panic.
23. If a chemical should splash in your eye(s) or on your skin, immediately flush with running water for at least 20 minutes. Immediately (and loudly) yell out the teacher's name to get the teacher's attention.

### **HANDLING CHEMICALS**

24. All chemicals in the laboratory are to be considered dangerous. Avoid handling chemicals with fingers. Do not taste or smell any chemicals.
25. Check the label on all chemical bottles twice before removing any of the contents. Take only as much chemical as you need.
26. Never return unused chemicals to their original container.
27. Never remove chemicals or other materials from the laboratory area.

### **HANDLING GLASSWARE AND EQUIPMENT**

28. Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass. Place broken glass in the designated glass disposal container.
29. Examine glassware before each use. Never use chipped, cracked, or dirty glassware.
30. If you do not understand how to use a piece of equipment, ASK THE TEACHER FOR HELP!
31. Do not immerse hot glassware in cold water. The glassware may shatter.

### **HEATING SUBSTANCES**

32. Do not operate a Bunsen Burner by yourself. Take care that hair, clothing, and hands are a safe distance from the flame at all times. Use of a Bunsen Burner is only allowed in the presence of the teacher.
33. Heated glassware remains very hot for a long time. They should be set aside in a designated place to cool and be picked up with caution. Use tongs or heat protective gloves if necessary.
34. Never look into a container that is being heated.
35. Do not place hot apparatus directly on the laboratory desk. Always use an insulated pad. Allow plenty of time for hot apparatus to cool before touching it.

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

**Syllabus / Lab Safety / Classroom Rules and Considerations**  
**Signature Sheet**

I verify that I have read and do fully understand the classroom policies and expectations for this class at Freeport Senior High School. Specifically, I understand the policies and expectations regarding the following:

1. The course syllabus and objectives
2. The course procedures and daily expectations
3. The grading and assignment requirements/policies
4. The use of cell phones inside of Room 51 (MY DEVICE CAN ONLY BE OUT IF GIVEN PERMISSION, I WILL POLITELY SET MY DEVIDE ON THE FRONT TABLE IF THE DEVICE IS DETERMINED TO BE A DISTRACTION, I WILL BE WRITTEN-UP IF NOT COMPLIANT)
5. All students deserve to be treated politely and respectfully as an equal
6. Late work will receive a deduction of 50%

In addition,

- I have read and do understand the policies of the Freeport Area School District as printed in the student handbook.
- I have read and do understand the Freeport Area School District attendance policies and understand that my capability in this class will be negatively impacted by lack of attendance and “catching up” is my responsibility.
- I acknowledge and agree with the Freeport Area School District computer use policy and understand that classroom laptops and related equipment are to be treated properly and my conduct during use will adhere to district policy.

Parent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Return this signed form to your teacher. Keep the printed documents and policies in your binder.

\*\*\*\*\* DETACH AND RETURN THIS PAGE ONLY \*\*\*\*\*