

Welcome to the SAA Science Box!!

6th – 8th Grade
Science Syllabus
Teacher: Mrs. O’Neal
2009-2010

Over the next nine months, you will be challenged to “*think outside of the box!*” Our world is constantly evolving around some form of Science. Whether it’s Physical, Earth, or Biological Sciences, we will explore these concepts through the support of hands-on investigative activities and inquiries. Not only will we explore the wonderful world of Science, we will also uncover the mysteries of Science through a series of research labs, projects, group activities, class discussions, debates, and PowerPoint presentations. This year our class theme will be **Risk-Takers**.

By the end of the year EVERY student will be able to:

- Approach unfamiliar situations and uncertainty with courage and forethought.
- Have the independence of spirit to explore new roles, idea, and strategies.
- Be brave and articulate in defending their scientific beliefs.

Student Objectives

- Be able to plan and implement investigative procedures as part of a team, including: asking questions, formulating testable hypothesis, and selecting and using appropriate tools and technology while demonstrating safe practices.
- Be able to organize, analyze, evaluate, make inferences, and predict trends from direct or indirect evidence collected.
- Be able to analyze, review and critique science based articles and literature.
- Be able to communicate one's understanding of concepts and explanations logically and coherently.
- Be able to represent the natural world using physical and/or mathematical models and identify their limitations.

CLASSROOM EXPECTATIONS

Science and science experimentation can be both fun and demanding at the same time. Whether, we are learning from lecture or from hands-on activities, the science class room/lab is never the place for inappropriate behavior to be exhibited that may directly or indirectly affects the learning environment, health and or safety of all concern. Therefore, you must:

1. Conduct yourself as “Gentlemen” and “Ladies” at all times.
2. Do no harm to yourself, others, classroom animals, or property.
3. Come to all labs academically prepared.
4. If you are not sure, or just ' THINK ' YOU KNOW, what/how to do, ask first!
5. Report any unsafe equipment/situations/activity to the teacher immediately.

If you choose not to follow the expectations of the classroom then the Choice System will be enforced.

1. Verbal/Visual warning
2. Student-Teacher Conference/ Student Detention
3. Parent Contact
4. Removal from class/lab environment with a zero grade for the activity & Referral

NOTE: I reserve the right to apply which ever consequence based upon the nature and severity of the offense.

GRADING POLICY

My grading policy is as follows:

- Classwork 50%
- Homework 10%
- Test/Projects..... 40%

Classwork – Students are assessed on all work completed during class. Classwork and assessments include projects, quizzes, lab reports, informal questioning and observations, and notebooks.

Homework – is graded on completion and correctness (unless little effort is evident).

Tests and Projects – Written, oral or computer based tests, projects, and field investigations are assigned near the end of each unit. A major project is assigned each six week.

**Students are expected to submit a FORMAL Lab Report by the end of the 2nd Semester.

**Notebooks will be graded at the end of each six weeks. Notebook requirements can be found on the school’s website underneath the Science class section.

You will receive a progress report approximately every three-weeks. These progress reports must be signed by a parent/guardian and returned to me.

HOMEWORK

Homework is given on Mondays and Thursdays (and occasionally over the weekend). Homework must be written in the Student Planner daily – it is the student's responsibility to record and know their homework. Homework is to be completed carefully and neatly.

MAKE-UP WORK

If you are absent from class, you will need to pick up your missing work from the missing work folders. You will have **THREE CLASS DAYS** to complete your missing work. After that time, if you have not discussed with me your missing work and options for completing it, you will receive a zero, no excuses, no exceptions.

LATE WORK

It is the student's responsibility to complete required classwork and test/quizzes as stated in the Grading Policy. Extreme situations of illness or family business will be handled on an individual basis.

Day 1 – (due date) up to 100%

Day 2 – (late) up to 75%

Day 3 – (late) up to 50%

Day 4 and after – 0%

TEST/QUIZ RE-TAKE

You are allowed to make up tests/quizzes only **ONCE** per test/quiz. I will assign re-take days for lunch and after school. You should either come to the re-take day or discuss other options with me for re-taking the test/quiz.

EXTRA CREDIT

I will give **ONE** extra credit assignment each six weeks. Assignments will either cover a homework or classwork grade. Extra credit will **NEVER** be given the last week of the six weeks. Students will have one week to complete extra credit.

****All missing and late homework or classwork must be accounted for or grades will be affected. If there is any missing or failing work, an ASIP (Academic Success Intervention Plan) will be sent home.**

The Science Box... Rocks!

LOCKER POLICY

Student locker times are 8:00 a.m., 2:45 p.m., and occasionally for emergency reasons during class.

RESTROOM POLICY

Students have the opportunity to visit the restroom before class, during lunch, and occasionally for emergency reasons during class.

COMMUNICATION

I will regularly call/email you and/or your parent/guardian about your excellent progress as well as notify you and/or your parent/guardian regarding your challenges. If you do not have a phone, I will mail a letter, set-up a meeting at school, or come to your home (if necessary). I am available for conference on “B” days from 8:00 a.m. – 9:00 a.m.

My email address is:

voneal@stanthonydallas.org

WebSmart by JR3 – grading system used by St. Anthony Middle School.

Visit our website at www.saadallas.org to find homework assignments and additional resources to be used at home to help prepare students.

**PLEASE SIGN STUDENT/PARENT ACKNOWLEDGEMENT OF RECEIPT
OF SYLLABUS & LABORATORY SAFETY CONTRACT.**

Grades 6th – 8th
2009-2010
Science Curriculum
Overview

	6th Grade	7th Grade	8th Grade
<i>1st Six Weeks</i>	<p>Building Blocks</p> <p>Students will identify and demonstrate the proper use of lab equipment including microscopes. Relate various scientific measurements with the correct metric unit. Recognize and simulate proper lab safety techniques and rules.</p>	<p>Safety; Scientific Method; Astronomy</p> <p>Cycles in Earth system (lunar, seasons & climates, carbon/water/nitrogen). Intro to conduction, radiation, & convection.</p>	<p>Safety; Scientific Method; Astronomy</p> <p>Cycles in Earth system (lunar, seasons & climates, carbon/water/nitrogen). Intro to conduction, radiation, & convection.</p> <p>Essential Questions:</p> <p>What is communication? How & why are systems organized?</p>
<i>2nd Six Weeks</i>	<p>Cause & Effect</p> <p>Students will use the food pyramid as they learn names of foods, whether or not a food is nutritious, and how to interpret information on a food label. Students will use the scientific method and practice inferring/hypothesizing in numerous lab experiments. Causes and effects of pollution will be addressed as well as the effects of the proper and improper use of our natural resources. The importance of conserving our resources (including wildlife) will be emphasized.</p>	<p>Impact on Earth Systems (greenhouse effect, global warming, pollution, environmental changes & ecosystems). Balanced/unbalanced forces. Newton's Laws of Motion. Types/characteristics of waves. Applications of waves. Geologic Processes.</p>	<p>Impact on Earth Systems (greenhouse effect, global warming, pollution, environmental changes & ecosystems). Balanced/unbalanced forces. Newton's Laws of Motion. Types/characteristics of waves. Applications of waves. Geologic Processes.</p> <p>Essential Questions:</p> <p>What effects do human activities have on the world? What moves you? How does energy move?</p>
<i>3rd Six Weeks</i>	<p>Systems Working Together</p> <p>Ecology: ecosystems, biomes, tropic levels and food chains will be discussed and illustrated. Students will also categorize animals as vertebrates and invertebrates, mammals, birds, reptiles, etc.</p>	<p>Rock Cycle: Minerals, Igneous, Sedimentary, Metamorphic rocks. Geologic Time</p>	<p>Rock Cycle: Minerals, Igneous, Sedimentary, Metamorphic rocks. Geologic Time</p> <p>Essential Question:</p> <p>What influences the journey?</p>

<p>4th Six Weeks</p>	<p>Finding Information/Research</p> <p>Students will gain a basic understanding of the structure and function of five human body systems and then integrate this information to see how these systems work together to allow us to do the things we do. Students will also relate various plant structures to their functions to show how separate parts work together to keep it healthy.</p>	<p>Structure/properties of atoms; Mass & charge; Periodic Table; Elements, compounds, mixtures; Formulas; Balanced Equations; Chemical/physical changes.</p>	<p>Structure/properties of atoms; Mass & charge; Periodic Table; Elements, compounds, mixtures; Formulas; Balanced Equations; Chemical/physical changes.</p> <p>Essential Questions:</p> <p>How is it possible for the inventor to control the invention? How do patterns promote change?</p>
<p>5th Six Weeks</p>	<p>Group Decisions</p> <p>Students will explore the Earth and other planets in our solar system. · Investigate planets - composition, distance from the sun, revolution time, etc. Compare and contrast comets, asteroids and meteors. · Predict, predict, predict - students will predict/hypothesize answers to questions posed in lab activities, test their prediction/hypothesis through experimentation, and then compare their results with others.</p>	<p>Electromagnetic spectrum; Origins & Characteristics of the universe; Tools of Astronomy; Measuring distance; Genetics; Adaptation & natural selection; Extinction</p>	<p>Electromagnetic spectrum; Origins & Characteristics of the universe; Tools of Astronomy; Measuring distance; Genetics; Adaptation & natural selection; Extinction</p> <p>Essential Questions:</p> <p>What is the price of progress? What is change?</p>
<p>6th Six Weeks</p>	<p>Persuasion</p> <p>Relate the six steps of the scientific method to the decision-making process. · Cite examples of how making ethical decisions can have a profound impact on self and others. · Learn how crime scene investigators use technology to solve crimes. Create a high-tech animal and explain how it survives.</p>	<p>Interactions among human systems; Equilibrium & feedback systems.</p>	<p>Interactions among human systems; Equilibrium & feedback systems.</p> <p>Essential Question:</p> <p>What is the effect of not having enough?</p>

****Advanced Science Class will work on grade level for content mastery in addition to a higher level mastery of science using investigative skills to incorporate the current six weeks TEKS.*

***Curriculum is subject to change based on students' needs assessment.*

PURPOSE

Science is a hands-on laboratory class. However, science activities may have potential hazards. We will use some equipment and animals that may be dangerous if not handled properly. Safety in the science classroom is an important part of the scientific process. To ensure a safe classroom, a list of rules has been developed and is called the Science Safety Contract. These rules must be followed at all times. Additional safety instructions will be given for each activity. No science student will be allowed to participate in science activities until this contract has been signed by both the student and a parent or guardian.

SAFETY RULES

1. Conduct yourself in a responsible manner at all times in the science room. Horseplay, practical jokes, and pranks will not be tolerated.
2. Follow all written and verbal instructions carefully. Ask your teacher questions if you do not understand the instructions.
3. Do not touch any equipment, supplies, animals, or other materials in the science room without permission from the teacher.
4. Perform only authorized and approved experiments. Do not conduct any experiments when the teacher is out of the room.
5. Never eat, drink, chew gum, or taste anything in the science room.
6. Keep hands away from face, eyes, and mouth while using science materials or when working with either chemicals or animals. Wash your hands with soap and water before leaving the science room.
7. Wear safety glasses or goggles when instructed. Never remove safety glasses or goggles during an experiment. There will be no exceptions to this rule!
8. Keep your work area and the science room neat and clean. Bring only your laboratory instructions, worksheets, and writing instruments to the work area.
9. Clean all work areas and equipment at the end of the experiment. Return all equipment clean and in working order to the proper storage area.
10. Follow your teacher's instructions to dispose of any waste materials generated in an experiment.
11. Report any accident (fire, spill, breakage, etc.), injury (cut, burn, etc.), or hazardous condition (broken equipment, etc.) to the teacher immediately.

AGREEMENT

I, _____, have read and understand each of the above safety rules set forth in this contract. I agree to follow them to ensure not only my own safety but also the safety of others in the science classroom or laboratory. I also agree to follow the general rules of appropriate behavior for a classroom at all times to avoid accidents and to provide a safe learning environment for everyone. I understand that if I do not follow all the rules and safety precautions, I will not be allowed to participate in science activities.

Student Signature

Date

Dear Parent or Guardian:

We feel that you should be informed of the school's effort to create and maintain a safe science classroom/laboratory environment. Please read the Science Syllabus & list of safety rules. No student will be permitted to perform science activities unless this contract is signed by both the student and parent/guardian and is on file with the teacher. Your signature on this contract indicates that you have read this Science Syllabus & Science Safety Contract, reviewed it with your child, and are aware of the measures taken to ensure the safety of your son/daughter in the science classroom.

Parent/Guardian Signature

Date

Important questions:

Does your child wear contact lenses? Y or N

Is your child color blind? Y or N

Does your child have any allergies? Y or N

If so, please list: