7th Grade Science and Science Pre Ap Syllabus

Instructor: Mrs. Alejandra Luna
Office: 4400 S. Glasscock Rd, Rm. # 123
Phone: (956) 580-5333
HW website: www.Sharylandisd.org

Class Schedule: Monday-Friday

1st – 7th Science PreAP
2nd- 7th Science
3rd-7th Science PreAP
4th- 7th Science
5th- 8th Science PreAP
6th- Lunch
7th - Conference
8th – 8th Science Pre Ap
9th –7th Science

TUTORING: Tuesday 4:15 PM-5:15 PM

Course Description

1) Grade 7 science is interdisciplinary in nature; however, much of the content focus is on organisms and the environment. National standards in science are organized as a multi-grade blocks such as Grades 5-8 rather than individual grade levels. In order to follow the grade level format used in Texas, the various national standards are found among Grades 6, 7, and 8. Recurring themes are pervasive in sciences, mathematics, and technology. These ideas transcend disciplinary boundaries and include change and constancy, patterns, cycles, systems, models, and scale.

The strands for Grade 7 include:

(A) Scientific investigation and reasoning.

i) To develop a rich knowledge of science and the natural world, students must become familiar with different modes of scientific inquiry, rules of evidence, ways of formulating questions, ways of proposing explanations, and the diverse ways scientists study the natural world and propose explanations based on evidence derived from their work.

ii) Scientific investigations are conducted for different reasons. All investigations require a research question, careful observations, data gathering, and analysis of the data to identify the patterns that will explain the findings. Descriptive investigations are used to explore new phenomena such as conducting surveys of organisms or measuring the abiotic components in a given habitat. Descriptive statistics include frequency, range, mean, median, and mode. A hypothesis is not required in a descriptive investigation. On the other hand, when conditions can be controlled in order to focus on a single variable, experimental research design is used to determine causation. Students should experience both types of investigations and understand that different scientific research questions require different research designs.

iii) Scientific investigations are used to learn about the natural world. Students should understand that certain types of questions can be answered by investigations, and the methods, models, and conclusions built from these investigations change as new observations are made. Models of objects and events are tools for understanding the natural world and can show how systems work. Models have limitations and based on new discoveries are constantly being modified to more closely reflect the natural world.

(B) Matter and energy. Matter and energy are conserved throughout living systems. Radiant energy from the Sun drives much of the flow of energy throughout living systems due to the process of photosynthesis in organisms described as producers. Most consumers then depend on producers to meet their energy needs. Subsequent grade levels will learn about the differences at the molecular and atomic level.

(C) Force, motion, and energy. Force, motion, and energy are observed in living systems and the environment in several ways. Interactions between muscular and skeletal systems allow the body to apply forces and transform energy both internally and externally. Force and motion can also describe the direction and growth of seedlings, turgor pressure, and geotropism. Catastrophic events of weather systems such as hurricanes, floods, and tornadoes can shape and restructure the environment through the force and motion evident in them. Weathering, erosion, and deposition occur in environments due to the forces of gravity, wind, ice, and water

(D) Earth and space. Earth and space phenomena can be observed in a variety of settings. Both natural events and human activities can impact Earth systems. There are characteristics of Earth and relationships to objects in our solar system that allow life to exist.

(E) Organisms and environments.

i) Students will understand the relationship between living organisms and their environment. Different environments support different living organisms that are adapted to that region of Earth. Organisms are living systems that maintain a steady state with that environment and whose balance may be disrupted by internal and external stimuli. External stimuli include human activity or the environment. Successful organisms can reestablish a balance through different processes such as a feedback mechanism. Ecological succession can be seen on a broad or small scale.

ii) Students learn that all organisms obtain energy, get rid of wastes, grow, and reproduce. During both sexual and asexual reproduction, traits are passed onto the next generation. These traits are contained in genetic material that is found on genes within a chromosome from the parent. Changes in traits sometimes occur in a population over many generations. One of the ways a change can occur is through the process of natural selection. Students extend their understanding of structures in living systems from a previous focus on external structures to an understanding of internal structures and functions within living things.

iii) All living organisms are made up of smaller units called cells. All cells use energy, get rid of wastes, and contain genetic material. Students will compare plant and animal cells and understand the internal structures within them that allow them to obtain energy, get rid of wastes, grow, and reproduce in different ways. Cells can organize into tissues, tissues into organs, and organs into organ systems. Students will learn the major functions of human body systems such as the ability of the integumentary system to protect against infection, injury, and ultraviolet (UV) radiation; regulate body temperature; and remove waste.

2) Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable.

(3) Scientific hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power that have been tested over a wide variety of conditions become theories. Scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Students should know that scientific theories, unlike hypotheses, are well established and highly reliable, but they may still be subject to change as new information and technologies are developed.

Full description of Texas Essential Knowledge and Skills available via TEA website at http://ritter.tea.state.tx.us/rules/tac/chapter112/ch112b.html

Academic dishonesty will result in a grade of F.

CHAPTERS AND CH. SECTIONS WILL BE COMBINED TO FORM THE UNITS NOT ALL CHAPTERS/SECTIONS WILL BE COVERED

1st Grading Period

Unit 01: Lab Safety and Tools

Chapter 1 Using Scientific Inquiry

Unit 02: Flow of Energy

Chapter 3 and Chapter 9 Ecosystem and Biomes

Unit 03: Organisms and the Environment

Chapter 10 Organisms and the Environment

2nd Grading Period

Unit 03: Continue with Organisms and the Environment

Chapter 10 Organisms and the Environment

Unit 04: Factors Impacting Earth Systems

Chapter 12 Weathering, Erosion, and Deposition and Chapter 11 Fresh Water

Unit 05: Force and Motion

Chapter 2 and Chapter 6

3rd Grading Period

Unit 05: Continue Force and Motion

Chapter 6 and Chapter 13 Space Exploration

Unit 06: Life in Our Solar System

Chapter 13 Space Exploration

1st Semester Exam

4th Grading Period

Unit 07: Structures and Function of Cells

Chapter 6

Unit 08: Part 1 Structure and Function of Living Systems

Chapter 2 and Chapter 7

5th Grading Period

Unit 08: Part 2 Structure and Function of Living Systems

Chapter 5 and Chapter 8

Unit 09: Physical and Chemical Changes

Chapter 2 and Chapter 6

6th Grading Period

Unit 10: Genetics

Chapter 4

Unit 11: Genetic Variations and Adaptations

Chapter 4 and Chapter 5

Final Exam

Class Work Activities: vocabulary terms, written compositions, study questions, study guide, reinforcement and enrichment master handouts, other resource handouts as required per chapter/section. Laboratory investigations and research projects will be done as appropriate per chapter/section in each unit. There will be a comprehensive semester exam at the end of each semester.

Chapter Review: Lab activities, summary, vocabulary and concepts, etc. at the end of each chapter will help students to master objectives.

Required School Supplies:

- ✓ Textbook: Pearson Interactive Science Grade 7th (Optional)
- ✓ 5 Subject Spiral Notebook
- ✓ Glue, Scissors, Pens, pencils, color pencils, markers, index cards
- ✓ Ruler with metric system
- ✓ Students are responsible for all materials presented in class, including announcements about changes in course procedures.
- ✓ Students might have to participate in bringing household materials to be used in lab activities.

Attendance:

- You are responsible for all material presented in class, including announcements about course procedures. Exams, quizzes, and homework often include questions on material presented only in class, so performance on these indirectly reflects attendance. See tutoring schedule above if absent to make up work missed.
- The student is responsible to keep his/her parent(s) informed of their progress in science class. Class progress reports will be given at mid grading period. It is the student's responsibility to have the parent review the progress report.
- Student is responsible to keep an Interactive Science Notebook (5 Subject Spiral). The notebook will include all information concerning school and class rules/regulations. The notebook will help

the student to be organized with all assignments for science class and will be graded (Major Grade) and required whenever a teacher/student/parent conference is held.

- **Parents are encouraged to call the teacher for a conference when they receive the three week progress report from the school.**

Classroom and Lab Policies & Procedures

I. Minor Assignments: 40%

Class work, homework, lab work, quizzes, reading assignments, participation:

1) Class work & Homework may include any other activity the teacher chooses to label as Class work.
2) Quizzes are given announced or unannounced on a regular basis when the instructor needs to check the students' progress.
3) Assignments are due at the beginning of the class. 4) Late work will be accepted according to district grading policy.
    - Students with an **EXCUSED ABSENCE** from school (including off-campus suspension) will have the opportunity to make up missed work at the rate of **one day for one day missed**, with a **maximum of five days**. ***Student will receive a zero for any major or minor assignment not made up within the allotted time.***
    - Students with an **UNEXCUSED ABSENCE** may not make up missed work; however, if the unexcused absence is determined to be caused by an extenuating circumstance, makeup work may be allowed. The grade for the makeup work will be no higher than a 70.
    - ***PreAP/AP/Dual Enrollment (taught by Sharyland ISD teachers) students will not be allowed to submit late minor work.***

*** **Homework:** Students are required to spend 20-30 minutes each day for assigned reading or Notebook study. ***

II. Major Assignments: 60%

Tests, projects, presentations, major journal checks, writing compositions, lab reports:

1) Students will complete assignments and submit by due date.
2) Test dates will be announced accordingly to allow adequate study time.
3) Group work is graded by individual participation on any given assignment.
4) Class participation is included in the daily work & homework grade.
5) Reteaching and retesting will be done according to school policy.
    - All students will be given up to 3 additional school days to redo a FAILING MAJOR ASSIGNMENT but the grade will be no higher than a 70. The teacher has the option of assigning an alternative major assignment and may require additional tutoring, assignments, etc., as appropriate. The teacher will indicate in the gradebook that the assignment was redone***. This provision does NOT apply to PreAP, Dual Enrollment (taught by Sharyland ISD teachers), or AP students.***
    - All students will be given 3 additional days (2 days for PreAP, AP, and DE taught by SISD teachers) to make up LATE MAJOR ASSIGNMENT and may be required additional tutoring, assignments, etc., as appropriate (with a progressive grade penalty of 10 points per day, 15 points/day for Pre AP/AP/Dual Enrollment taught by Sharyland ISD teachers). ***PreAP/AP/Dual Enrollment (taught by Sharyland ISD teachers) students will not be allowed to submit late minor work.***
    - If 50% OR MORE OF STUDENTS IN A CLASS FAIL a MAJOR ASSIGNMENT, the entire class will receive reteaching of the content using a different instructional strategy from the original presentation. All students will be given an alternative major assignment. Students will receive the higher of the two grades earned. The teacher will indicate in the gradebook that the assignment was retaught.

6) Retesting does not apply to class work, homework, lab work, quizzes, reading assignments, participation.

Lab work & Quizzes:

1. Detention or lab grade of a "0" may be given for not following the lab safety rules.
2. Students are not allowed to break or damage the lab equipment. If they do so, it may require replacing the equipment/detention or office referrals may also be assigned.
3. Students are recommended to notify the teacher for planned absences.

Notebooks:

One 5 Subject Notebook will be kept to include:

- Bell Work
- Class work/Homework
- Lab work
- Quizzes
- Projects

* Notebooks will be graded for completeness, neatness, and organization → Major Grade.

PERIOD::_____

STUDENT NAME

B L Gray Junior High

Dear Parent or Guardian,

I am eager to start the 2018-19 school year and would like to begin by thanking you for the opportunity to be your child's science teacher. Please take a moment to review the class syllabus and safety contract with your child. Please sign below acknowledging that you have read the class syllabus and safety contract and that you and your child understand it. If you have any questions please feel free to ask.

Student Signature: _____ Parent Signature: _____

Date: _____

Mrs. Alejandra Luna

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generates a number for the teacher to use so their number stays private as well. I highly recommend you join your class so you don't miss out on important announcements or reminders. Be sure to join the correct class Science or IPC. If you need assistance signing up or have any questions please feel free to contact me.

Follow these steps to join Science class via text:

Science students text this number 81010 then enter the correct code for the appropriate class.

Class Period	**Code**
1st pd	@1luna
2nd pd	@2luna
3rd pd	@3luna
4th pd	@4luna
5th pd	@5thluna
8th pd	@8luna
9th pd	@9luna

Parents please check off the corresponding box and sign to authorize your child to receive these notifications.

. ıI do give permission for my child to participate in Remind messaging.

. ıI do not give permission for my child to participate in Remind messaging, should my child sign up without my permission Mrs. Luna will not be held responsible.

_____ _____

Parent Name (print) Signature