

School For Excellence General Science Syllabus

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Tutoring: Wednesday 2:45 – 3:30

SFE Website: www.sfe-morriscampus.org

Course Description: The aim of this course is to build an awareness of the science standards. This general science course is offered to those in the 9th grade, which shall allow students to demonstrate their competency as well as prior knowledge in science inquiry, technological use, concepts of matter and energy, as well as the characteristics of living and non-living factors, in a given environment. This course shall also explore how a student can utilize personal strengths and styles of learning for academic achievement. In addition, establish School for Excellences goals in numeracy, art integration and literacy is incorporated, so that students will be prepared to meet NYC regents exam requirements.

Unit One

I. September- What Are The Characteristics of Living Things?

Skills/topic:

* What are our strengths/weaknesses? - Students engage in a Multiple Intelligence survey resulting in a graph that provides a visual on their strengths and weakness, while exploring possible career options.

*What is Science? - Students defining the theories, facts and scientific law and methods.

*How can we conduct an experiment? - Students set up a control plant experiment. Design observation and data chart.

*What are the Methods and Materials used in science?-Assessment quiz.

*Interdisciplinary research project, topic to be determined at a later time. Students' responsibility will consist of collecting data, designing graphs, working in groups, and presenting their projects to the class.

II. October-The Science Laboratory

* What are the Common Science Prefixes and Suffixes? - Students will engage in writing activities, that will assist them in defining and utilizing many science terms.

- * Safety in the Laboratory- Students shall explore the rules and regulations while demonstrating appropriate behavior through hands on experience, workbooks and tools.
- * Identifying Laboratory Apparatus- Students shall explore the various names and common uses of equipment in laboratories.
- * The use of measurements in the Laboratory- Students shall be able to combine math content with science knowledge to measure volume, length, weight and temperature.
- * Students shall have insights on various career opportunities.

III. November- The Functions of an Organism

- *Explore the 9 functions of an organism- students shall be able to identify and apply knowledge regarding excretion, respiratory, ingestion, digestion, circulation, responding to stimuli, movement, growth and development, also reproduction.
- * Identify the factors that may contribute to the malfunctions of an organism.
- * Explore possible career fields

IV. December: Similarities among living Things

- *How do we define Life? - Students shall be able to identify and describe the common unit of living things from atoms to cells.
- * Students shall describe the various ways in which cells are explored in the laboratory while researching abnormal cell structures.
- * Students shall be able to identify structures, and develop illustrations of cell organelles.
- * Students shall compare the life functions of a living organism and life functions of that of an organelle. (ex. Cells reproduce, has a nutrition plan, transport, excrete, and grow, just as we do!).

Unit Two

V. January: Comparing and contrasting the structure and function of the cell

- * Students shall extend knowledge on the structure and function of the cell.

* Students shall be able to identify the characteristics that identify an animal and plant cell.

* Students shall be able to define the concepts pertaining to the cell theory.

* Students shall research the scientists who have contributed to the cell theory.

* Students shall develop a project that aligns with the function and structure of a cell organelle and that of a City.

VI. February: What are the characteristics that we love about the Biomes of the world?

*Students shall be able to define the biomes of the world as well as identify the characteristics that relates to each.

*Students shall be able to describe the cause/effects of human impact on the biomes.

* Students shall be able to interpret research data and identify the various characteristics of the land and water biomes in the biosphere.

* Students shall be able to compare and contrast between the various biomes temperature, precipitation and the unique organisms that dwell within the biome.

* Students shall be able to comprehend the data needed for construction of a climatograph.

*Students shall research the various employment opportunities in this field.

VII. March: What is energy in motion?

*Students shall compare and relate to the various forms of energy.

* Students shall be able to calculate and identify future affects and causes of energy. (renewable and nonrenewable resources).

*Students shall apply energy concepts to the food chain and food web.

* Students shall be able to apply concepts and draw conclusions on how symbiosis is important.

* Students shall cite evidence on how patterns of events are altering the flow of earth's energy.

Unit Three

VIII. April: What are the layers of the atmosphere?

*Students shall be able to identify and describe the factors that define the layers of the biosphere as well as recognizing the levels of the atmosphere.

*Students shall research data pertaining to weather and climate.

IX. May: How does technology affect the universe?

*Students shall explore the past, present and future concepts that apply to technology.

*Students shall explore the various concepts that apply to technology and the effects on.....

* The water population

* The land organisms

* The air

* Recent shealth concerns, environment and life styles.

X. June: How can we review, revise, and assess our comprehension of the course data?

*Students shall utilize journals as a review tool of lessons, and concepts.

*** Students shall attend after school tutoring for course review, project /homework make-up, as well as absent presentation assignments.**

Discipline procedures - Each student is expected to come to class ready and prepared to engage in proper behavior standard mod. If there is a violation of any behavior found unsafe for classroom instructions the following shall be executed. **This procedure shall be executed for lack of homework or required assigned projects as well.**

1st- Verbal Warning , and discussion

2nd- Kinvolve outreach

3rd- parents' attendance for in house appointment at the school with teacher or phone conversation

Each student is expected to bring to class everyday supplies needed for instruction. (special attention shall be given when additional materials are required for projects.)

1. Journal notebook
2. Markers, highlighters, Black or Blue pen and pencils
3. Three ring binders with section designated for science with pocket folders
4. All assignments, homework and projects must be submitted on or before the due date (where extra credit may be obtained) and shall not contain scratch out or consistent page white outs!

Grading Policy

40% Classwork and Participation

40% Exams and projects

5% Homework

10% Mock/ Regents Prep

5% Organizational Skills

