

Seventh Grade Life Science

Ms. Lauren Watson

2007/2008

Syllabus

Hello! Welcome to 7th grade Life Science. Have you ever thought what do mold, seaweed, fleas, trees, and snakes have in common? All are living things. The branch of science that deals with the study of living things is called *biology, or life science*. This year we will become disease detectives, determine how many viruses fit on a head of a pin, find out what causes red tide, examine the organ systems of an earthworm, and create digital animations of cell division and many more activities. Life science is a great class and I look forward to sharing my passion of life science with all of you.

Objectives:

Students will demonstrate the skills and knowledge necessary for the study of life science.

Materials:

Students will need to bring to class daily:

- Agenda book
- Pencils or pens (blue or black ink)
- Colored pencils
- Composition notebook (An additional notebook will be needed for science fair projects)
- Three ring binder with pockets, 5 dividers, and notebook paper (College ruled preferred)

Grading:

- Participation/ Classroom work 10%
- Quizzes 20%
- Homework 15%
- Tests 30%
- Labs 25%

Participation/Classroom Work (10%)

Class participation is a must! Students will be asked to work on individual and group assignments throughout the year. It will be the student's effort and willingness to participate, which will dictate the student's Classroom/Participation Grade. As long as students are on task, they will receive full credit for the day. The following will result in the student receiving a zero for that day's participation/classroom grade.

- Having an unexcused tardy
- Not bringing their agenda book to class
- Not having the required materials in class (pens, paper, notebook)
- Not participating during a classroom and/or Lab assignment

Quizzes (20%)

Quizzes will take place from time to time and will consist of five to ten questions based on the week's lesson. Pop-quizzes can occur at any time.

Homework (15%)

Homework is 15% of the grade in this class. Often, it will involve some studying and perhaps some written work. There will be few homework assignments given during the year, however, students are responsible for studying their key terms and notes taken in class. During the first semester, the homework for all students will be to work on science fair. Students will be asked to turn in homework assignments regarding science fair during the first semester. Students will also be responsible for studying their key terms and notes taken in class. Homework cannot be made up unless a student was absent.

Tests (30%)

Tests will be given upon the completion of the current chapter or at Ms. Watson's discretion. We will have a chapter review a day or two before the test; however, students are still responsible for studying the material on their own.

Labs (25%)

Ms. Watson loves to have hands-on lab activities that enrich the information covered in class. Whenever possible, lab information will be given prior to the lab activity. Students will be responsible for reading over the lab **BEFORE** coming to class. On the day of the lab, questions regarding the procedures will be addressed before the lab. Although students will be working in groups, each individual student will still be responsible for their individual lab worksheets. Since labs are 25% of the student's grade, students should prepare for a lab as they would a test.

Success Tips

There are many ways to improve your chance of success in this course:

1. Attend class every day.
2. Do your homework as quickly after class as possible, study it, understand it, and keep it organized.
3. Read your text and make notes of areas not understood.
4. Ask questions of your teacher in and out of class.
5. Form a study group or get a "study buddy".
6. **DO NOT DELAY SEEKING HELP WHEN NEEDED!**

Absences

When a student is absent from class, it is the **student's responsibility** to get the make up work and/or assignments from the make up work bin in class. The make up bin is located just inside the classroom on the right hand side. Each bin is labeled with class period on it, and inside the bin, student will find missed work. It depends on how many classes that student was absent, when Ms. Watson will require them to show the completed work. Usually two days are given for every day the student was absent.

Important reminder:

If a student is absent on the day that a quiz, test, or lab (or the student signs out to go home before class or is late and comes to school after class) that student is required to make up that quiz and/or test the day the return. Students will know a week before an exam is given, so quiz and test dates will be known ahead of time. Labs must be made up **within one week** of when it was given or it will be entered as a zero.

Contacting the teacher:

The best way to contact Ms. Watson is via e-mail at LaurenWatson@ssas.org. If a student or parent sends an e-mail, a response will usually get back to them within 48 hours, unless the teacher is absent from school. Phone calls and email will not be answered on the weekends or during school breaks. So, please do not be offended if an email is sent on a Friday and you don't get a response until Monday.

Parents may also contact Ms. Watson by calling the school and leaving a message (330-1855 x102). Please keep in mind that it might take me some time to get back to you if phone tag is played!

Conferences are scheduled shortly after each midterm. Any parent/guardian who is concerned about their student's progress should call the School Receptionist to schedule a conference for these days.

Expectancies for the Life Science Class for the school year 2007-2008

Please note:

The following schedule is indented to be an outline of expected outcomes. Length of time to complete a given unit of study is based on the progress made day to day by each of the classes. There may need to be adjustments due to many factors.

Students this year will be required to keep a daily journal, in a composition book, of all bellwork. These books will be submitted to the teacher for review at the close of each unit of study. For the majority of the school year, students will have a set of FCAT daily questions for their bellwork. Students will write down the question and their answer in their composition notebook. Be sure to include the date, question, and answer the composition notebook.

Order of Unit Progression for the 2007-2008 School Year

The following is an outline of those areas that will be studied this year. You will note that the first area, dealing with Science Fair, has definite assignments and due dates, while the other areas do not list assignments. Please note that we will cover the regular science units during the times we are not directly working in class on the science fair. Those units will have little to no homework. It is expected that during the science fair preparation time (roughly the first semester) the student's science fair project is their homework!

Science Fair!

Due Date Timeline

***** __ Week 1-3:*****

- Choose a topic to investigate
- Choose a problem statement
- Choose a hypothesis
- Working on variables in class
- Begin working on your Log Book

WHAT'S DUE?

- *Tentative (working) Problem statement
 - * Tentative (working) Hypothesis
 - *Variables (IV and DV)
- Due date: Monday August 27th (8/27)

***** __ Week 4:*****

- Work on filling out the science fair forms
 - Begin working on your research paper
 - Continue working on your Log Book
- <http://www.sciserv.org/isef/document/index.asp>

WHAT'S DUE?

- *Science Fair forms with parent signatures
- Due date: Friday September 17th (9/17)

***** __ Week 5-7:*****

- Choose a minimum of three sources (only 2 can be web pages) and
- Begin working on Review of Literature
- Work on Procedures and Materials in class (September 18th, (9/18))
- Continue working on your Log Book

WHAT'S DUE?

* Review of Literature

*MLA format of sources

Due date: Monday September 24th (9/24)

***** __ Week 8:*****

- Working on how to collect data in class
- Continue working on your Log Book

WHAT'S DUE?

*Materials List

*Procedures

*Updated Problem Statement

*Updated Hypothesis

Due date: Monday September 24th (9/24)

***** __ Week 8-15:*****

- Working on experimentation
- Collecting data
- Continue working on your Log Book

WHAT'S DUE?

*Nothing at this time

***** __ Week 14:*****

- Working on organizing your data in class
- Working on how to use data to come up with a conclusion in class
- Continue working on your Log Book

WHAT'S DUE?

*Data tables

*Graphs

*Conclusion

Due date: Monday November 11-12th (11/11-12)

***** __ Week 15-16:*****

- Working on setting up your display board in class
- Continue working on your Log Book

WHAT'S DUE?

*Completed science fair project includes your logbook, research paper, and display board.

Due date: Monday November 27 (11/27)

*** **Week 17:*****

• **SCIENCE FAIR!**

7th and 8th grade on Tuesday November 28th (11/28)

6th grade on Wednesday November 29th (11/29)

Units of Study

Please note that students are given study guides for each test given. These study guides will, in the beginning, be complete guides, they will not need a book to study with. Later in the second half of the year, students will be given study guides that may contain areas they will need to answer to complete. These study guides then become their complete study guide needs.

First Quarter:

- *Discovering Cells
- *Looking Inside Cells
- *Chemical Compounds in Cells
- *The Cell in its Environment
- *Cell Division
- *Mendel's Work
- *Probability and Genetics
- *The Cell and Inheritance
- *The DNA Connection
- *Modern Genetics
- *Cloning

Third Quarter:

- *Characteristics of Seed Plants
- *Gymnosperms
- *Angiosperms
- *Biomes and Food Chains
- *What is an Animal?
- *Symmetry
- *Sponges & Cnidarians
- *Worms
- *Mollusks
- *Arthropods
- *Insects

Second Quarter:

- *What is Life?
- *The Origin of Life
- *Classifying Organisms
- *The Six Kingdoms
- *Search for Extraterrestrial Life
- *Viruses
- *Bacteria
- *Infectious Disease
- *The Body's Defenses
- *Viruses, Bacteria, and your Health
- *Protists
- *Algal Blooms
- *Fungi
- *Plant Kingdom
- *Plant Responses and Growth
- *Photosynthesis
- *Mosses, Liverworts, and Hornworts
- *Ferns and Their Relatives

Fourth Quarter:

- *Echinoderms
- *What is a Vertebrate?
- *Fish
- *Amphibians
- *Reptiles
- *Birds
 - *Mammals
- *The Skeletal System
- *Diagnosing Bone and Joint Injuries
- *The Muscular System
- *The Skin

- *The Digestive Process Begins
- *Final Digestion and Absorption
- *The Body's Transportation System
- *Blood and Lymph
- *The Nervous System

Cells and Heredity

We will start with cell structure and function and continue with genetics: the science of heredity. We will cover Mendel's experiments on heredity, mitosis, meiosis, spend a lot of time discussing deoxyribonucleic acid, and human genetic disorders.

From Bacteria to Plants

We will continue the year with the study of what life is, classifying organisms and the six kingdoms of life. From the "non-living" viruses, to the world of bacteria, to the most diverse life on Earth the protists, to the decomposing fungi, and finally the plant kingdom. Just as there are different forms of animals, there are different types of plants.

We will be covering the differences between angiosperms and gymnosperms among others. We will approach these kingdoms in the order of appearance in the fossil record.

Animals

What exactly is an animal? What is the difference between a vertebrate and an arthropod?

From the simplest sponges through the most complex mammals; we will continue the evolutionary timeline discussing how one organism's genetic make up and behavior leads to the next stage in evolution. The order of animal procession will be sponges, cnidarians, worms, mollusks, arthropods, echinoderms, fish, amphibians, reptiles, birds, and mammals.

Environmental Science

We will be taking a closer look at the Earth's different biomes. Students will focus on the interactions of biotic and abiotic factors of an ecosystem. During the course of this book, students will be researching and presenting projects on the different biomes and food webs found in those habitats.

Human Biology and Health

We will be looking at the way in which our bodies fight off pathogens. You will discover how the human body is its own universe within the body. We will also be looking at the different organ systems in humans. These include the skeletal, muscular, digestive, excretory, immune, circulatory, and nervous system.

