

7th Grade Life Science – 2nd Semester

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Course Description

Life science standards emphasize a more complex understanding of change, cycles, patterns, and relationships in the living world. Students will explore cellular organization, classification of organisms, the dynamics of relationships among organisms, and change as a result of the transmissions of genetic information from generation to generation. The scientific area defines the idea that explanations of nature are developed and tested through the scientific method. Logical thinking and inquiry skills at this level include organization and mathematical analysis of data, variable manipulation, and identification of an experimental error.

Common Core Standards

Students will:

1. Understand the relationship between science and technology
2. Understand the importance of natural resources and the need to manage and conserve them
3. Understand systems, order, and organization
4. Understand concepts and processes of evidence, models, and explanation
5. Understand constancy, change, and measurement
6. Understand that the Theory of Evolution is a process that relates to the gradual changes in the universe and of equilibrium as a physical state.
7. Understand the relationship between matter and energy in living systems
8. Understand the cell is the basic of form and function for all living things
9. Understand scientific inquiry and develop critical thinking skills
10. Understand that interpersonal relationships are important in scientific endeavors
11. Understand the Theory of Biological Evolution

Instructional Materials

Textbook: Holt Science & Technology Life Science, videos, and websites.

Class Expectations

- Be Prepared – always have your pencil, paper, notebook, book(s), and completed assignments – **Each day an assignment is late your grade will be reduced by 10%.**
I **DO NOT** give ZEROS (0), if you do not turn in an assignment you will be given an incomplete until it is finished. This is your education, your future, you are expected to complete each assignment.
- Be Respectful – to teacher, classmates, and visitors; respect all school rules (dress code, etc...); raise hand before speaking; respect others' opinions.
- Be Actively Engaged – pay attention, participate, take notes, ask questions, and provide answers.
- Take Care of the textbooks given to you, desks you sit in, items you borrow from others and any other class materials presented.
- Be Responsible for Your Actions
- THIS CLASS WILL BE PROJECT ORIENTED AND HANDS ON LEARNING; I EXPECT THAT YOU WILL DO YOUR PART IN MAKING THIS CLASS SUCCESSFUL.

Lab Expectations and Safety

Lab work is important to science! Not only are labs a part of your grade, but labs also contribute to your understanding of the concepts presented. When you participate in a lab, SAFETY is the number one priority. I expect that you will behave or your lab privileges will be taken away from you, not only will this be boring, but it will affect your grade – greatly!!

Class Materials Needed

All your writing will be in pencil or typed and one notebook specifically for Life Science.

Tentative Units with Instructional Dates

Quarter 1

<ul style="list-style-type: none">▪ Week 1 – Chapter 10, Bacteria and Viruses, Vocabulary, “Aunt Flossie and the Intruder” Activity, Chapter 10 Assessment	<p>Standard: Understand scientific inquiry and develop critical thinking skills.</p> <p>Objectives: Describe the characteristics of bacteria, list three ways bacteria are useful to people, and explain how viruses are similar to and different from living things.</p>
<ul style="list-style-type: none">▪ Week 2 – Chapter 11, Protists and Fungi, Vocabulary, “There’s a Fungus Among Us!”, Science in Action, Chapter 11 Assessment	<p>Standard: Understand the cell is the basic of form and function for all living things.</p> <p>Objectives: Describe the characteristics of protists, Describe how protists can be organized into three groups based on their shared traits, and describe the characteristics of fungi.</p>
<ul style="list-style-type: none">▪ Week 3 – Combine Chapters 12 & 13, Introduction to Plants & Plant Processes, Vocabulary, “Build a Flower” Activity, Chapter 12-13 Assessment	<p>Standard: Understand systems, order, and organization.</p> <p>Objectives: List three nonvascular plants and three seedless plants, Explain the economic and environmental importance of gymnosperms and angiosperms, Identify the parts of a flower and their function, Describe photosynthesis, and explain how plants respond to light and gravity.</p>
<ul style="list-style-type: none">▪ Week 4 – Chapter 14, Animals and Behavior, Aunt Flossie and the Bumblebee, Dancing Cranes video, Chapter 14 Assessment	<p>Standard: Understand systems, order, and organization.</p> <p>Objectives: Describe the five characteristics that all animals share, Describe the five kinds of behaviors that help animals survive, and list the advantages and disadvantages of living in groups.</p>
<ul style="list-style-type: none">▪ Week 5 – Chapter 15, Invertebrates, Soaking sponges activity, Create a song about invertebrates, examples, Chapter 15 Assessment	<p>Standard: Understand the Theory of Biological Evolution.</p> <p>Objectives: Describe the body plans, nervous systems, and guts of invertebrates, describe the four body parts that most mollusks have in common, list the four main characteristics of arthropods, and describe the endoskeleton, nervous system, and water vascular system of echinoderms.</p>
<ul style="list-style-type: none">▪ Week 6 – Chapter 16, Fishes, Amphibians, and Reptiles, Video, Dissect a frog online, Make a fish!, Chapter 16 Assessment	<p>Standard: Understanding scientific inquiry and develop critical thinking skills.</p> <p>Objectives: Describe the four traits that fishes share, describe amphibian metamorphosis, and name the four groups of modern reptiles, and give an example of each.</p>
<ul style="list-style-type: none">▪ Week 7 – Chapter 17, Birds and Mammals, Paper airplane activity, characteristics of each	<p>Standard: Understand concepts and processes of evidence, models, and explanation.</p> <p>Objectives: Describe how a bird’s diet, breathing, muscles, and skeleton help it fly and describe seven common characteristics of mammals</p>
<ul style="list-style-type: none">▪ Week 8 – Chapter 17, Birds and Mammals, Bird building, mammal video, Dolphins in the Navy, Chapter 17 Assessment	<p>Standard: Understand the relationship between matter and energy in living systems.</p> <p>Objectives: Explain how early mammals lived and explain how placental mammals develop, and describe the difference between monotremes and marsupials.</p>
<ul style="list-style-type: none">▪ Week 9 – Chapters 10-17 Assessment, Quarter 3 Life Science Project	<p>Standard: Understand the relationship between science and technology.</p> <p>Objectives: Synthesize the information from chapters 10-17 and demonstrate the information retained.</p>

Quarter 2

<ul style="list-style-type: none"> ▪ Week 10 – Chapter 22, Body Organization and Structure, Skeletal System, Muscular & Integumentary System, Chicken Bone Lab, Chapter 22 Assessment 	<p>Standard: Understand systems, order, and organization. Objectives: Describe how tissues, organs, and organ systems are related, Describe four functions of the bones, List three kinds of muscular tissue, and list four functions of skin.</p>
<ul style="list-style-type: none"> ▪ Week 11 – Chapter 23, Circulation and Respiration, Heart and circulation puzzle, Carbon Dioxide Breath Lab 	<p>Standard: Understand the relationship between science and technology. Objectives: List four main parts of the cardiovascular system and describe their functions, identify the four main components of blood, and describe the three functions of blood</p>
<ul style="list-style-type: none"> ▪ Week 12 – Chapter 23, Circulation and Respiration, Lymphatic System, Blood Type Lab, Chapter 23 Assessment 	<p>Standard: Understand concepts and processes of evidence, models, and explanations. Objectives: Describe the relationship between the lymphatic system and the circulatory system and describe the parts of the respiratory system and their function.</p>
<ul style="list-style-type: none"> ▪ Week 13 – Chapter 24, The digestive and Urinary System, “changing foods” lab, Chapter 24 Assessment 	<p>Standard: Understand systems, order, and organization. Objectives: Describe the parts and functions of the digestive system and explain how the kidneys filter blood.</p>
<ul style="list-style-type: none"> ▪ Week 14 – Chapter 25, Communication and Control, Nervous System, Senses, Endocrine System, Chapter 25 Assessment 	<p>Standard: Understand that interpersonal relationships are important in scientific endeavors. Objectives: Describe the relationship between the central nervous system and the peripheral nervous system, list five sensations that are detected by receptors in the skin, and explain why the endocrine system is important to the body.</p>
<ul style="list-style-type: none"> ▪ Week 15 – Chapter 26, Reproduction and Development, Animal & Human Reproduction, Growth and Development, Chapter 26 Assessment 	<p>Standard: Understand the cell is the basic of form and function for all living things. Objectives: Explain the difference between external and internal fertilization, Identify the structures and functions of the male and female reproductive system, and identify the stages of human development from birth to death.</p>
<ul style="list-style-type: none"> ▪ Week 16 – Chapter 27, Body Defenses and Disease, Virus and Bacteria, “Passing the Cold” lab, Chapter 27 Assessment 	<p>Standard: Understand the relationship between science and technology. Objectives: Explain the difference between infectious diseases and noninfectious diseases and explain how the immune system fights infection.</p>
<ul style="list-style-type: none"> ▪ Week 17 – Life Science Culminating Project Presentations; Review for Final Exam 	<p>Standard: Understand scientific inquiry and develop critical thinking skills. Objectives: Synthesize the information from chapters 10-17 and demonstrate the information retained.</p>
<ul style="list-style-type: none"> ▪ Week 18 – Semester Final Exam 	

Assessment/Tests

See Instructional Units/Dates

Grading Procedures

- Each assignment, assessment, project will be worth individual points.
- Homework will be due daily. Full points will not be given if the assignment is late.
- All assessments must be taken during the class period. If absent, the student should arrange a make-up time before or after school.
- Grades will be calculated by dividing the total points earned by a student by the total points possible.