

Quarter 1	Quarter 2
Introduction to Biology Chemistry Basics	Cells Heredity
Quarter 3	Quarter 4
Heredity Evolution	Ecology Diversity of Life

Course Content	SSS Strand Modern Biology	Course Objective	SSS Benchmark	Essential Skill	Sample Student Oriented Tasks
Intro to Biology Q1	<p>For ALL Honors H strands SEE:</p> <p>Chapter Labs</p> <p>Science Technology Society</p> <p>Science in Action</p> <p>1-3, 1-4</p> <p>1-3</p>	<p>1.Character-istics of life</p> <p>2. Lab Safety</p> <p>3. Scientific Method</p> <p>NOTE: STRAND H WILL BE TAUGHT THROUGH OUT THE YEAR. THESE STUDENT-ORIENTED TASKS DO NOT NEED TO BE COMPLETED ALL AT ONCE.</p>	<p><u>SC.H.1.4.1</u> know that investigations are conducted to explore new phenomena, to check on previous results, to test how well a theory predicts, and to compare different theories.</p> <p><u>SC.H.1.4.3</u> understand that no matter how well one theory fits observations, a new theory might fit them as well or better, or might fit a wider range of observations,</p>	<p>1. Know and apply the principles of scientific inquiry (prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and ethical principles).</p>	<p>a. Design a biological experiment using control and testing groups, independent and dependent variables.</p> <p>b. Identify a biological theory proposed in the early 1800's, compare it with the current modified theory on this topic, and hypothesize reasons for the revision.</p> <p>c. Explain how 2 people with the same data can draw different conclusions.</p> <p>d. Read a biological research article and identify the "ethical obligations" of the person involved in leading, participating in, or reporting the results of the scientific study.</p> <p>e. Choose a major biological theory and discuss how scientists collect evidence and data to support this theory.</p> <p>f. Over a two-week period, observe and record human behavior (eating habits, taking certain vitamins, levels of exercise, smoking, etc...) in their natural setting. At the end of the two-week period, describe any human behavior patterns that exist. Offer explanations as to why these patterns may occur.</p> <p>g. Science Fair Project</p>

	1-3		because in science, the testing, revising, and occasional discarding of theories, new and old, never ends and leads to an increasingly better understanding of how things work in the world, but not to absolute truth.		
	1-1, 1-3				
	1-3, 15-1		<p><u>SC.H.1.4.4</u> know that scientists in any one research group tend to see things alike and that therefore scientific teams are expected to seek out the possible sources of bias in the design of their investigations and in their data analysis.</p> <p><u>SC.H.2.4.1</u> know that scientists assume that the universe is a vast</p>		

			<p>system in which basic rules exist that may range from very simple to extremely complex but that scientists operate on the belief that the rules can be discovered by careful, systemic study..</p> <p>SC.H.2.4.2 know that scientists control conditions in order to obtain evidence, but when that is not possible for practical or ethical reasons, they try to observe a wide range of natural occurrences to discern patterns.</p>		
	4-1, 10-1, 10-2, 14-1, 15-1, 17-1		<p>SC.H.1.4.2 know that from time to time, major shifts occur in the scientific view of how the world works, but that more often, the changes that take place in the body of scientific knowledge are</p>	<p>1. Understand the impact on society and the environment of scientific and technological discoveries and the contributions of scientists.</p>	<p>a. Discuss the big new ideas in biological science today and trace their origins and development.</p> <p>b. Research different people's contributions to an accepted biological theory and debate the merits of each point of view.</p> <p>c. Research and present the biological contributions of a famous person. Include how well these contributions</p>

	1-3, 9-1		<p>small modifications of prior knowledge.</p> <p><u>SC.H.1.4.5</u> understand that new ideas in science are limited by the context in which they are conceived, are often rejected by the scientific establishment, sometimes spring from unexpected findings, and usually grow slowly from many contributors.</p> <p><u>SC.H.1.4.6</u> understand that in the short run, new ideas that do not mesh well with mainstream ideas in science often encounter vigorous criticism and that in the long run, theories are judged by how they fit with other theories, the range of observations they</p>		<p>were accepted by the majority of the people.</p> <p>d. Choose and describe a biological theory that was ridiculed as preposterous by some, but is now supported with convincing evidence.</p>
--	----------	--	--	--	--

			explain, how well they explain observations, and how effective they are in predicting new findings.		
4-1, 11-2, 227	1-3, 15-1		SC.H.3.4.2 know that technological problems often create a demand for new scientific knowledge and that new technologies make it possible for scientists to extend their research in a way that advances science.	1. Understand how society may accept or reject scientific discoveries based on need or refusal to change.	a. Discuss how scientists used the study of bats to develop sonar navigation for submarines. b. Research and report on new technologies developed as a result of the space program. c. Explain how advanced technology has been used to further biological research and development. d. Trace the development of the x-ray machine, microscope, or other important equipment for biological discovery. e. Discuss how scientific information and insight helps improve the quality of life for people. f. Review and discuss the efforts of scientists over the past three centuries to inform the public about environmental, political, and economic consequences of global warming. g. Discuss the effect of free access of information on the Internet by underdeveloped countries.
1-3, 12-2, 18-2	1-3		SC.H.1.4.7 understand the importance of a sense of responsibility, a commitment to peer review, truthful reporting of the methods and outcomes of investigations, and making the public aware of the findings.		
17-1, 17-2			SC.H.3.4.3 know		

			<p>that scientists can bring information, insights, and analytical skills to matters of public concern and help people understand the possible causes and effects of events.</p> <p>SC.H.3.4.4 know that funds for science research come from federal government agencies, industry, and private foundations and that this funding often influences the areas of discovery.</p> <p>SC.H.3.4.5 know that the value of a technology may differ for different people and at different times.</p>		<p>h. Identify problems associated with generating and storing radioactive wastes from nuclear generators and nuclear power plants. Apply half-life analysis to such radioisotopes as Uranium and Plutonium.</p>
	1-3		<p>SC.H.3.4.1 know that performance testing is often conducted using small-scale models, computer</p>	<p>1. Plan and apply real or hypothetical models and constructions to facilitate investigation and learning and the solution to practical</p>	<p>a. Compare and contrast the methods of design and testing of models of transportation in the 1950's and now in the 2000's.</p> <p>b. Design a tool that can be used for a</p>

			<p>simulations, or analogous systems to reduce the chance of system failure..</p> <p>SC.H.3.4.6 know that scientific knowledge is used by those who engage in design and technology to solve practical problems, taking human values and limitations into account.</p>	<p>problems.</p>	<p>particular purpose. Explain why models, simulation, and testing are important steps to designing and manufacturing tools.</p> <p>c. Write a persuasive paper presenting reasons why we need to protect our atmosphere.</p> <p>d. Identify practical problems that are solved with technology and describe the effect of solutions on human values.</p> <p>e. How can a fishing industry and its jobs be preserved without driving fish species to extinction?</p> <p>f. How can a city grow and expand its economy and still maintain wilderness and agricultural areas?</p>
<p>Chemistry</p> <p>Q1</p>	<p>2-1, 3-1</p> <p>2-1, 2-2, 2-3</p>	<p>1. Atomic Theory</p> <p>2. Chemical Bonds</p> <p>3. Macromolecules</p>	<p>SC.A.1.4.1 knows that the electron configuration in atoms determines how a substance reacts and how much energy is involved in its reactions.</p> <p>SC.A.1.4.2 knows that the vast</p>	<p>1. Understands the historical development of the periodic table.</p> <p>2. Apply properties and atomic structure of elements and chemical compounds, the forces between atoms and molecules, and changes in substances due to combination.</p> <p>1. Understand physical</p>	<p>a. Compare characteristics of elements of the same group from the periodic table.</p> <p>b. Explain chemical reactions taking place when cooking food, photosynthesis, or during combustion.</p> <p>c. Draw a Lewis Dot diagram for compounds.</p> <p>d. Explain why carbon is said to be a versatile element. Research its uses in materials.</p> <p>a. Students melt ice into water or boil</p>

	2-1, 2-3, 3-2		<p>diversity of the properties of materials is primarily due to variations in the forces that hold molecules together.</p> <p>SC.A.1.4.5 knows that connections (bonds) form between substances when outer-shell electrons are either transferred or shared between their atoms, changing the properties of substances.</p>	and chemical changes.	water into steam. Using a thermometer, notice there is no change in temperature. Therefore, to change state, energy (heat) is required to make the change, but it is hidden, or latent, from being measured with the thermometer.
	2-1, 3-2		<p>SC.A.1.4.4 experiments and determines that the rates of reactions among atoms and molecules depend on the concentration, pressure, and temperature of the reactants and</p>		a. Research common enzymes (catalysts) in living organisms and why the organisms cannot maintain life processes without them.

			the presence or absence of catalysts		
2-2, 3-1, 2-2			<p><u>SC.B.1.4.1</u> understand how knowledge of energy is fundamental to all the scientific disciplines (e.g., the energy required for biological processes in living organisms and the energy required for the building, erosion, and rebuilding of the Earth).</p> <p><u>SC.B.1.4.2</u> understand that there is conservation of mass and energy when matter is transformed.</p>	<p>1. Know the properties of electromagnetic energy, how energy transfer affects weather and climate.</p> <p>2. Identify types of energy.</p>	<p>a. Research and discuss the role of ATP in the biological processes of the human body.</p> <p>b. Research and discuss the role of carbon, hydrogen, and oxygen in photosynthesis and cellular respiration.</p> <p>c. Describe the transformation of energy from solar fusion to a boy playing basketball after eating a cheeseburger.</p>
3-1, 3-2 2-2, 3-2			<p><u>SC.F.1.4.1</u> know that the body processes involve specific biochemical reactions governed by biochemical</p>	<p>1. Understand the chemical reactions involved in cell functions</p>	<p>a. Collect respiratory rates while performing different exercises and explain the relationship between higher respiratory rate and increased exercise. Create a table or chart to show the comparisons.</p> <p>b. Research how diets work in the</p>

			<p>principles.</p> <p>SC.F.1.4.5 know that complex interactions among the different kinds of molecules in the cell cause distinct cycles of activity governed by proteins.</p>		<p>human body.</p> <p>c. When wood is cut and dried through a process, wood will start to deteriorate when being exposed to water. Through special treatments this process can be slowed. Explain why this would be important in building outside structures.</p> <p>d. Create a diagram of how the digestive system works. Include graphics and a text box.</p> <p>e. Relate the structure and functions of a city to the structure and functions of a cell.</p>
	3-1, 3-2		<p>SC.G.1.4.3 know that the chemical elements that make up the molecules of living things are combined and recombined in different ways.</p>	<p>1. Understands and applies organic reactions involving substitution, addition, fermentation, oxidation, polymerization, etc.</p>	<p>a. See Chemistry SC.B.1.4.1</p>
<p>Cells</p> <p>Q2</p>	<p>6-1</p> <p>7, 8</p>	<p>1. Structure and Function</p> <p>2. Membranes</p> <p>3. Cell Energetics (Metabolism, coupled reactions, fermentation,</p>	<p>SC.B.1.4.1 understand how knowledge of energy is fundamental to all the scientific disciplines (e.g., the energy required for biological</p>	<p>1. Understand the chemical reactions involved in cell functions.</p>	<p>a. Create models of cells using various materials.</p> <p>b. Relate the structure and functions of a city or amusement park to the structure and functions of a cell.</p>

	<p>4-3, 5-2, 6-1, 7-2</p> <p>2-2</p> <p>4-3, 5-2, 6-1, 6-2, 7-2</p> <p>8-2</p>	<p>cellular respiration, and photo-synthesis)</p> <p>4. Cell reproduction (Cell Cycle, Mitosis, Meiosis)</p>	<p>processes in living organisms and the energy required for the building, erosion, and rebuilding of the Earth).</p> <p>SC.F.1.4.1 know that the body processes involve specific biochemical reactions governed by biochemical principles.</p> <p>SC.F.1.4.3 know that membranes are sites for chemical synthesis and essential energy conversions.</p> <p>SC.F.1.4.4 understand that biological systems obey the same laws of conservation as physical systems.</p> <p>SC.F.1.4.5 know</p>		
--	--	--	---	--	--

			<p>that complex interactions among the different kinds of molecules in the cell cause distinct cycles of activity governed by proteins.</p> <p><u>SC.F.1.4.8</u> know that cell behavior can be affected by molecules from other parts of the organism or even from other organisms.</p>		
	<p>4-2, 4-3</p> <p>4-2, 4-3, 8-1, 8-2,</p> <p>8-2, 8-3</p>		<p><u>SC.F.1.4.2</u> know that body structures are uniquely designed and adapted for their function.</p> <p><u>SC.F.2.4.2</u> know that every cell contains a “blueprint” coded in DNA molecules that specify how proteins are assembled to regulate cells.</p> <p><u>SC.F.2.4.1</u> understand the</p>	<p>1. Identify and understand the structure and parts that comprise the different types of cells.</p>	<p>a. Model prokaryote and eukaryote cells.</p>

			mechanisms of asexual and sexual reproduction and know the different genetic advantages and disadvantages of asexual and sexual reproduction.		
	6-1		<p>SC.F.1.4.6 know that separate parts of the body communicate with each other using electrical and/or chemical signals.</p> <p>SC.F.1.4.7 know that organisms respond to internal and external stimuli.</p>	1. Understand nerve regulation and chemical regulation.	a. Research illnesses caused by malfunctions in nerve and chemical regulation.
	4-3, 4-4 5-1, 5-2		<p>SC.G.1.4.1 know of the great diversity and interdependence of living things.</p> <p>SC.G.1.4.3 know that the chemical elements that make up the molecules of</p>	1. Understand the relationship between energy processes and ecosystems.	

			living things are combined and recombined in different ways.		
Heredity Q2/3	10-2	<p>1. Heredity (Mendelian Genetics, Chromosomal Basis of Inheritance)</p> <p>2. Molecular Genetics (RNA/DNA structure, Protein Synthesis, Mutations, and Viruses are optional)</p>	SC.A.1.4.2 knows that the vast diversity of the properties of materials is primarily due to variations in the forces that hold molecules together.	1. Apply properties and atomic structure of elements and chemical compounds, the forces between atoms and molecules, and changes in substances due to combination.	a. Explain reactions between atoms and molecules that result in the double helix of DNA.
	10-2, 10-3, 10-4 11-1, 11-2		SC.F.2.4.2 know that every cell contains a “blueprint” coded in DNA molecules that specify how proteins are assembled to regulate cells.	1. Know the chemical and structural properties of DNA and its role in specifying the genetic characteristics of an organism.	<p>a. Compare blueprints of a building to DNA for a human.</p> <p>b. Do an internet search for DNA computing.</p>

	<p>10-4</p> <p>10-3, 11-1</p>		<p>living things are combined and recombined in different ways.</p> <p>SC.F.1.4.1 know that the body processes involve specific biochemical reactions governed by biochemical principles.</p> <p>SC.F.1.4.5 know that complex interactions among the different kinds of molecules in the cell cause distinct cycles of activity governed by proteins.</p>	<p>polymerization, etc...</p>	
	<p>10-3</p>		<p>SC.F.2.4.1 understand the mechanisms of asexual and sexual reproduction and know the different genetic advantages and disadvantages of</p>	<p>1. Understand that sexual reproduction involves the union of special sex cells that are usually produced by two separate parents with half of the genes coming from each parent allowing for a high degree of</p>	<p>a. Create a set of cards with the events of meiosis or mitosis. Shuffle the cards, distributing one to each student. Have students organize themselves in the proper sequence of events.</p> <p>b. Create a role-play with a group that demonstrates meiosis. Include the replication of genetic material.</p>

			<p>asexual and sexual reproduction.</p>	<p>genetic diversity. Most plants and animals use sexual reproduction.</p> <p>2. Understand that asexual reproduction involves the production of offspring from a single parent organism with all the genes coming from that parent. Asexual reproduction occurs with unicellular organisms and some plants.</p>	<p>c. Create a comic strip showing mitosis and meiosis</p>
	10-3		<p><u>SC.G.2.4.3</u> understand how genetic variation of offspring contributes to population control in an environment and that natural selection ensures that those who are best adapted to their surroundings survive to reproduce</p>		
Evolution Q3	14-2	<p>1. Origin of Life</p> <p>2. Evidence for and Mechanisms</p>	<p><u>SC.D.1.4.3</u> know that changes in Earth's climate, geological</p>	<p>1. Understand nuclear energy involves a reaction where mass is converted to energy.</p>	<p>a. Research and report on different dating techniques and how the age of artifacts is determined.</p>

		of Evolution	activity, and life forms may be traced and compared.	<p>1. Sequence geologic events by analyzing the chronology of layers, igneous intrusions and extrusions, faults, joints and folds, and internal characteristics such as cracks, veins, and mineral cement.</p> <p>2. Examine the fossil record to understand ancient life forms and evolutionary development.</p>	a. Research and provide a possible explanation as to why scientists found 300 million year old fossilized tropical plants in the coal deposits of Pennsylvania.
15-1, 15-2, 15-3, 16-3	15-2		<p>SC.D.1.4.4 know that Earth's systems and organisms are the result of a long, continuous change over time.</p> <p>SC.F.1.4.2 know that body structures are uniquely designed and adapted for their function.</p>	<p>1. Determine geologic history by examining the rock record.</p> <p>2. Examine the fossil record to understand ancient life forms and evolutionary development.</p>	<p>a. Construct a timeline of Earth's geologic events.</p> <p>b. Choose an animal and a story describing a theory of how that animal changed over time. Include the factors that could have contributed to the change.</p>
15-1, 15-3, 16-2, 16-3,			SC.F.2.4.3 understand the mechanisms of change (e.g.,	1. Examine evolution as it relates to theories concerning the origin of life and natural	a. Describe survival of the fittest as seen in today's workplace.

	15-1, 16-1, 16-2		<p>mutation and natural selection) that lead to adaptations in a species and their ability to survive naturally in changing conditions and to increase species diversity.</p> <p>SC.G.2.4.3 understand how genetic variation of offspring contributes to population control in an environment and that natural selection ensures that those who are best adapted to their surroundings survive to reproduce.</p>	selection.	
	17-1, 17-2, 17-3, 18-1		<p>SC.G.2.4.1 know that layers of energy-rich organic materials have been gradually turned into great coal beds and oil pools (fossil fuels) by the pressure of</p>	<p>1. Analyze the properties of the Earth's crust and interior.</p> <p>2. Identify the factors affecting the deposition of particles and analyze the sorting of sediments in a system.</p>	<p>a. Create a presentation to explain reasons for becoming less dependent on fossil fuels as energy sources. Include the by-product given off when fossil fuels are burned and how this by-product affects the environment.</p> <p>b. Debate the pros and cons of using a high-sulfur coal as a fuel source in a crowded city. Research the effects of</p>

			the overlying earth and that humans burn fossil fuels to release the stored energy as heat and carbon dioxide.		automobile exhaust on air quality.
Ecology Q4	22-1 18-2 18-2 18-2 22-1, 22-2, 22-3	1. Animal Behavior 2. Ecosystems 3. Global Issues	<p>SC.D.1.4.3 know that changes in Earth's climate, geological activity, and life forms may be traced and compared.</p> <p><u>SC.B.1.4.1</u> understand how knowledge of energy is fundamental to all the scientific disciplines (e.g., the energy required for biological processes in living organisms and the energy required for the building, erosion, and rebuilding of the Earth).</p>	<p>1. Understand the fossil record.</p> <p>2. Describe the events of succession.</p> <p>3. Describe cause and effect relationships of human activities on living and nonliving environments.</p> <p>4. Understand the conservation of energy in an ecosystem food web.</p>	<p>a. Students describe the process of fossilization and explain how this process has resulted in gaps in the fossil record.</p> <p>b. Students select a catastrophic event in recent history that resulted in widespread environmental devastation and describe the stages of recovery for plant and animal populations.</p> <p>c. Use the Internet to research an environmental hot spot (i.e. oil spills, toxic waste dumps, polluted water bodies). Describe the nature of the problem, the environmental effects, and efforts to counteract those effects.</p> <p>d. Create a model of a Florida ecosystem that demonstrates the components of the food web in that ecosystem.</p> <p>e. Show video showcasing animal behaviors (i.e. "Animals Behaving Badly") and have students identify the behaviors shown. Lead a class</p>

	<p>18-3, 18-4</p> <p>18-3</p> <p>18-4</p> <p>18-2</p> <p>17-1, 17-2, 17-3, 18-1</p> <p>18-4, 22-1</p>		<p>SC.B.1.4.2 understand that there is conservation of mass and energy when matter is transformed.</p> <p>SC.B.1.4.7 know that the total amount of usable energy always decreases, even though the total amount of energy is conserved in any transfer</p> <p>SC.D.2.4.1 understand the interconnectedness of the systems on Earth and the quality of life.</p> <p>SC.F.1.4.4 understand that biological systems obey the same laws of conservation as physical systems.</p> <p>SC.G.1.4.2 understand how</p>	<p>5. Identify animal behaviors resulting from their internal and external environment.</p> <p>6. Identify the role of an organism within their environment.</p> <p>7. Understand and identify the source of fossil fuels.</p> <p>8. Identify the major characteristics and factors affecting formation of major biomes.</p> <p>9. Understand human impact on the environment through pollution and methods of improvement.</p>	<p>discussion to demonstrate the overlapping of many behavior types.</p> <p>f. Give the students a list of organisms in the Florida environment and have them identify their role as a producer, consumer, or decomposer.</p> <p>g. Students will identify the source and formation of different fossil fuels.</p> <p>h. Students select a dominant animal for each biome and identify the characteristics that allow it to be successful in that biome.</p> <p>i. Diagram a food web and describe what can occur when species are removed from the ecosystem.</p> <p>j. Design and construct a terrarium complete with animal and plant life. Record temperature, feeding, growth, behavior, etc...for a month and construct a graph from your data. Write an analysis of your data. Discuss the greenhouse effect with regards to temperature in the terrarium.</p> <p>i. See Ecology SC.D.2.4.1.</p>
--	---	--	---	---	---

	18-1, 18-2		the flow of energy through an ecosystem made up of producers, consumers, and decomposers carries out the processes of life and that some energy dissipates as heat and is not recycled		
	19-1, 20-2, 22-2				
	18-1, 18-2, 18-3, 19-1, 20-2, 22-2		SC.G.1.4.3 know that the chemical elements that make up the molecules of living things are combined and recombined in different ways.		
	19-3, 20-2, 22-2		SC.F.1.4.7 know that organisms respond to internal and external stimuli. SC.G.1.4.1 know of the great diversity and interdependence of living things.		

SC.G.2.4.1 know that layers of energy-rich organic materials have been gradually turned into great coal beds and oil pools (fossil fuels) by the pressure of the overlying earth and that humans burn fossil fuels to release the stored energy as heat and carbon dioxide.

SC.G.2.4.4 know that the world ecosystems are shaped by physical factors that limit their productivity.

SC.G.2.4.2 know that changes in a component of an ecosystem will have unpredictable effects on the entire system but

			<p>that the components of the system tend to react in a way that will restore the ecosystem to its original condition.</p> <p>SC.G.2.4.5 understand that the amount of life any environment can support is limited and that human activities can change the flow of energy and reduce the fertility of the Earth.</p> <p>SC.G.2.4.6 know the ways in which humans today are placing their environmental support systems at risk (e.g., rapid human population growth, environmental degradation, and resource depletion).</p>		
Diversity of Life	33-2, 33-1, 33-2, 34, 35, 36, 37, 38, 39-2, 39-	<ol style="list-style-type: none"> 1. Classification 2. Survey of Viruses 	SC.F.1.4.2 know that body structures are	1. Identify relationships between structure and function at each level	a. Students select one organism from each kingdom. For each organism selected, the student will create an

<p>Q4</p>	<p>3, 40-2, 41, 42-2, 43-2, 45, 46, 48-2, 48-3, 49, 51-1, 51-2</p> <p>45-2, 45-3, 46-3, 48-1, 48-2, 49-1, 50-1</p> <p>49, 50-1, 50-2</p> <p>31-1, 31-2, 31-3, 32-1, 32-2, 33-1, 33-2, 34-1, 35-1, 35-2, 36, 37-1, 37-2, 38-1, 39-2, 39-3, 40-2, 41-2, 42-2, 43-2, 44-1, 46-3, 47-1, 49-1, 50-1</p>	<p>3. Survey of Monerans</p> <p>4. Survey of Protists</p> <p>5. Survey of Fungi</p> <p>6. Survey of Plants</p> <p>7. Survey of Animals (Seven major phyla)</p> <p>8. Human Survey</p>	<p>uniquely designed and adapted for their function.</p> <p>SC.F.1.4.1 know that the body processes involve specific biochemical reactions governed by biochemical principles.</p> <p>SC.F.1.4.5 know that complex interactions among the different kinds of molecules in the cell cause distinct cycles of activity governed by proteins.</p> <p>SC.F.1.4.6 know that separate parts of the body communicate with each other using electrical and/or chemical signals.</p>	<p>of taxonomy.</p> <p>2. Student describes the role of proteins in life cycles.</p> <p>3. Students understand the parts of the body involved in regulation.</p> <p>4. Students will describe the various ways that organisms respond to internal and external stimuli.</p> <p>5. List the various types of molecules that affect cell behavior.</p> <p>6. Contrast sexual and asexual reproduction.</p> <p>7. Understand the role of DNA and mutation in adaptations and traits.</p> <p>8. Discuss the comparative anatomy of the 5 major</p>	<p>artistic work highlighting the trait that made the organism successful in its environment.</p> <p>b. Create a Jeopardy-style game highlighting the functions of proteins in organisms.</p> <p>c. Using a Venn Diagram compare and contrast methods of communication in unicellular and multi-cellular organisms.</p> <p>d. Provide students with a list of stimuli found in the internal or external environment. Students will explain the process of sensing and responding to each stimulus.</p> <p>e. Conduct a laboratory experiment demonstrating the effect of salt water on freshwater protists and plant cells.</p> <p>f.</p> <p>g. Students use the Internet to research various diseases and conditions resulting from changes in DNA sequences.</p> <p>h. Dissections and lab practicals.</p> <p>i. Provide students with a list of biological functions common to all organisms (i.e. respiration). Have students list the body parts used to accomplish those functions for each of</p>
-----------	--	---	---	--	--

	24-2, 50-1, 50-2		SC.F.1.4.7 know that organisms respond to internal and external stimuli.	Kingdoms and 7 major Phyla of the Animal Kingdom.	the major Kingdoms and 7 major Phyla.
	23-2, 25-1, 30-1, 30-2, 30-3		SC.F.1.4.8 know that cell behavior can be affected by molecules from other parts of the organism or even from other organisms.		
	23, 24, 25, 26, 27, 32		SC.F.2.4.1 understand the mechanisms of asexual and sexual reproduction and know the different genetic advantages and disadvantages of asexual and sexual		

reproduction.

SC.F.2.4.2 know that every cell contains a “blueprint” coded in DNA molecules that specify how proteins are assembled to regulate cells.

SC.G.1.4.1 know of the great diversity and interdependence of living things.

SC.D.1.4.4 know that Earth’s systems and organisms are the result of a long, continuous change over time.