

**Miami-Dade County Public Schools**



**Department of Mathematics and Science**

# **Learning Goals**



**For Biology 1 Courses**



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## Introduction to Learning Goals

The Learning Goals for Biology 1 Courses were developed using the Biology 1 End of Course (EOC) Science Achievement Level Descriptions (ALDs). The purpose of this document is to assist teachers with planning for the diverse readiness of students and to facilitate the growth of rich student portfolios. By providing teachers with an achievement scale aligned to a learning progression with accompanying sample progress monitoring and assessment activities, these learning goals reflect the Department's underlying principal of supporting instructional programs and teaching strategies that serve all students and accommodate diverse needs and learning styles to eliminate the achievement gap.

Having a scale aligned to learning progressions and formative assessments provides substantial support for students that can be enhanced by facilitating student ownership of learning. Investing students in learning by allowing them to track their progress and even generate new personal goals while celebrating student growth is critical to the sustenance of effective use of learning goals.

Marzano (2007) identifies six action steps to maximize the effect of learning goals on student achievement. These steps are:

1. Distinguish between learning goals and learning activities.
2. Write a scale for each learning goal.
3. Assess students using a formative approach.
4. Have students identify their own learning goals.
5. Have students chart their progress on each learning goal.
6. Recognize and celebrate growth.

The learning goals presented in this document explicitly address the first three action steps with the remaining three action steps needing to be implemented in the classroom.

### Reference:

- Marzano, R. J. (2007). *The art and science of teaching: A comprehensive framework for effective instruction*. Alexandria, VA: Association for Supervision and Curriculum Development.

# **Biology 1 learning goals Standard 7 -**

**SC.912.E.7.1:** Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon. (*Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
Score/Step 5.0	<input type="checkbox"/> I am able to analyze the movement of matter through different biogeochemical cycles.	Design an experiment that will assess factors that affect the carbon and water cycle. Examples can include testing how temperature and light availability affect the water and carbon cycle.
Score/Step 4.0	<input type="checkbox"/> I am able to trace the movement of matter through different biogeochemical cycles.	<ul style="list-style-type: none"> <li>• Construct models of the carbon and water cycle to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.</li> <li>• Examples of the carbon cycle should emphasize the role of carbon in the process of photosynthesis and cellular respiration.</li> </ul>
Score/Step 3.0 Target (Learning Goal)	<input type="checkbox"/> I am able to trace the movement of matter through different biogeochemical cycles.	Distinguish between the carbon and water cycles by labeling the processes involved and tracing the flow of matter through each cycle.
Score/Step 2.0	<input type="checkbox"/> I am able to trace the movement of matter through the carbon cycle.	Label the flow of carbon through a given diagram containing living and non-living factors.
Score/Step 1.0	<input type="checkbox"/> I am able to recognize that carbon is an element found in all living things.	

# **Biology 1 learning goals Standard 14 -**

**SC.912.L.14.3:** Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells. (*Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
Score/Step 5.0	<input type="checkbox"/> I am able to compare structures and describe related functions in different types of cells.	Develop an argument for each key organelle listed below and justify their level of importance within the cell.
Score/Step 4.0	<input type="checkbox"/> I am able to compare structures and describe related functions in different types of cells.	Create an analogy to develop an understanding of the structural and functional processes that take place in the cell using the key organelles listed below.
Score/Step 3.0 Target (Learning Goal)	<input type="checkbox"/> I am able to compare the structures and functions in different types of cells.	Make a Venn Diagram to distinguish between prokaryotic and eukaryotic cells with regard to structures that exist in each. Then, within the category of eukaryotic cells, compare and contrast plant and animal cells with regard to structures that exist in each.
Score/Step 2.0	<input type="checkbox"/> I am able to identify related functions of structures in different types of cells.	Match each organelle to a brief description of its function. Cell Organelles: cell wall, cell membrane (plasma membrane), cytoplasm, nucleus, nuclear envelope, nucleolus, chromatin, plasmid, chromosomes, ribosomes, endoplasmic reticulum, microtubules, microfilaments, vacuoles, mitochondria, Golgi apparatus, chloroplasts, lysosomes, cilia, and flagella.
Score/Step 1.0	<input type="checkbox"/> I am able to recognize the difference between plant and animal cells.	

**SC.912.L14.7:** Relate the structure of each of the major plant organs and tissues to physiological processes. (Cognitive Complexity: Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to relate structures of plant tissues and organs directly to their roles in physiological processes.	Choose any plant structure, tissue, or organ and describe the effect it will have in a physiological process if that organ is not present.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to relate structures of plant tissues and organs to their roles in physiological processes.	Investigate the structures of plant tissues and organs and relate the structure of plant parts to their function and dissect a flower to examine key structures and match them to their function.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to relate the structures of plant tissues and organs to their roles in physiological processes.	Create a foldable to differentiate the role of the key structures listed below as they relate to each physiological process: photosynthesis, cellular respiration, transpiration, growth, and reproduction.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify the structures and functions of plant tissues and organs.	<ul style="list-style-type: none"> <li>• Given a general diagram of a plant, identify key structures and match them to their function. Plant Key Structures: roots, stems, leaves, flowers, fruits, cones, meristematic tissue, ground tissue, dermal tissue, vascular tissue, cambium, guard cells, phloem, root hairs, root cap, seed, stomata, xylem</li> <li>• Given a flower diagram, identify key structures and match them to their function.</li> <li>• Flower Key Structures: stamen, pistil, ovary, petals, sperm, egg, sepal, filament, anther, style, and stigma.</li> </ul>
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to identify basic plant organs.	

**SC.912.L14.36:** Describe the factors affecting blood flow through the cardiovascular system. (*Cognitive Complexity*: Level 2: Basic Application of Skills & Concepts )

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to identify factors that affect blood flow and analyze how these factors affect blood flow through the cardiovascular system.	Design and/or conduct an experiment that tests how factors such as blood pressure, blood volume, resistance, blood viscosity, disease, and exercise affect blood flow.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to identify factors that affect blood flow and/or evaluate how these factors affect blood flow through the cardiovascular system.	Given a real-life scenario, predict how blood pressure, blood volume, resistance, blood viscosity, disease, and exercise affect blood flow.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify factors that affect blood flow and/or relate these factors to how they affect blood flow through the cardiovascular system.	Describe how factors such as blood pressure, blood volume, resistance, blood viscosity, disease, and exercise may increase or decrease blood flow.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify factors that affect blood flow through the cardiovascular system.	Identify factors such as blood pressure, blood volume, resistance, blood viscosity, disease, and exercise that affect blood flow.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to identify the main function of the cardiovascular system.	

**SC.912.L14.52:** Explain the basic functions of the human immune system, including specific and nonspecific immune response, vaccines, and antibiotics. ( *Cognitive Complexity:* Level 1: Recall )

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
Score/Step 5.0	<input type="checkbox"/> I am able to summarize the basic functions of the human immune system, vaccines, and antibiotics.	Research how certain pathogens are able to fool the immune system. Be specific about their mechanisms.
Score/Step 4.0	<input type="checkbox"/> I am able to summarize the basic functions of the human immune system, vaccines, and antibiotics.	Create a diagram/poster illustrating the three lines of defense and summarize how the immune system builds immunity.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify the basic functions of the human immune system, vaccines, and antibiotics.	<ul style="list-style-type: none"> <li>• Identify the structures, organs, and cells of the immune system and relate them to their function as part of the specific or nonspecific immune responses.</li> <li>• Describe how the human immune system responds to vaccines and/or antibiotics.</li> </ul>
Score/Step 2.0	<input type="checkbox"/> I am able to identify the basic functions of the human immune system, vaccines, and antibiotics.	Identify the functions of the specific and nonspecific immune response.  Identify the functions of vaccines and antibiotics.
Score/Step 1.0	<input type="checkbox"/> I am able to identify the main function of the immune system.	

# **Biology 1 learning goals Standard 15 -**

**SC.912.L15.1:** Explain how the scientific theory of evolution is supported by the fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change. (*Cognitive Complexity:* Level 3: Strategic Thinking & Complex)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to evaluate the multiple bodies of evidence that support the scientific theory of evolution.	Investigate the lines of evidence of evolution through student stations that address each of the following fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to assess some of the multiple bodies of evidence that support the scientific theory of evolution.	Research and create a flip book of how each line of evidence supports the theory of evolution.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify some bodies of evidence that support the scientific theory of evolution.	<ul style="list-style-type: none"> <li>• Construct a graphic organizer that includes examples of the lines of evidence that support the theory of evolution.</li> <li>• Examples should include fossil record, comparative anatomy, comparative embryology, biogeography, molecular biology, and observed evolutionary change.</li> </ul>
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify some bodies of evidence that support the scientific theory of evolution.	Distinguish between the lines of evidence that support the theory of evolution.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to define evolution.	

**SC.912.L15.4:** Describe how and why organisms are hierarchically classified and based on evolutionary relationships. (*Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to analyze how and why organisms are hierarchically classified based on evolutionary relationships.	Apply the hierarchy of classification to identify the Domain and Kingdom of an unknown organism given the distinguishing characteristics.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to determine how and why organisms are hierarchically classified based on evolutionary relationships.	Investigate the distinguishing characteristics of the Domains (Archaea, Bacteria, Eukarya) and Kingdoms (Protista, Fungi, Plantae, and Animalia) of Life.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to show how and why organisms are hierarchically classified based on evolutionary relationships.	<ul style="list-style-type: none"> <li>• Recognize the distinguishing characteristics of the Domains (Archaea, Bacteria, Eukarya) and Kingdoms (Protista, Fungi, Plantae, and Animalia) of Life.</li> <li>• Given a cladogram, identify the distinguishing characteristics and describe the evolutionary relationships between organisms.</li> </ul>
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to recognize that organisms are hierarchically classified based on evolutionary relationships.	<ul style="list-style-type: none"> <li>• Classify organisms based on the distinguishing characteristics of the domains and/or kingdoms of living organisms.</li> <li>• Examples of characteristics may refer to prokaryotic, eukaryotic, unicellular and/or multicellular organisms, autotrophs, and/or heterotrophs.</li> </ul>
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recognize that all organisms change over time.	

**SC.912.L15.8:** Describe the scientific explanations of the origin of life on Earth. (*Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to analyze scientific explanations of the origin of life on Earth.	Evaluate the scientific contributions of Pasteur, Oparin, Miller and Urey, Marguilis and Fox to the origin of life.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to evaluate scientific explanations of the origin of life on Earth.	<ul style="list-style-type: none"> <li>• Compare and contrast the scientific contributions of Pasteur, Oparin, Miller and Urey, Marguilis and Fox to the origin of life.</li> <li>• Construct a graphic organizer that includes specific evidence that supports each contribution to the origin of life.</li> </ul>
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to summarize scientific explanations of the origin of life on Earth.	<ul style="list-style-type: none"> <li>• Explain how contributions of scientists such as Pasteur, Oparin, Miller and Urey, Marguilis and Fox aided in the development of the scientific explanation of the origin of life.</li> <li>• Create a foldable booklet that includes a summary of each scientific contribution to the origin of life.</li> </ul>
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to recognize scientific explanations of the origin of life on Earth.	<ul style="list-style-type: none"> <li>• Identify situations or conditions contributing to the origin of life.</li> <li>• Using a timeline with given dates, organize in chronological order the contributions to the origin of life by Pasteur, Oparin, Miller and Urey, Marguilis and Fox.</li> </ul>
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recognize that all living things originated on Earth.	

**SC.912.L15.10:** Identify basic trends in hominid evolution from early ancestors six million years ago to modern humans, including brain size, jaw size, language, and manufacture of tools. (*Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to analyze information to determine basic trends in hominid evolution.	Research how the development of language or manufacturing of tools resulted from the development of changes in the skull or brain size.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to analyze information to determine basic trends in hominid evolution.	Collect data by measuring and observing primate skulls and use that data to describe evolutionary trends between fossil and living specimens of hominids.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify basic trends in hominid evolution.	Analyze the basic trends in hominid evolution by examining given images of human skulls from early ancestors six million years ago to modern humans.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify basic trends in hominid evolution.	Interpret a hominid evolution timeline according to changes from early ancestors six million years ago to modern humans.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recognize that humans are changing over time.	

**SC.912.L15.13:** Describe the conditions required for natural selection, including: overproduction of offspring, inherited variation, and the struggle to survive, which result in differential reproductive success. (*Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to analyze conditions required for natural selection that result in differential reproductive success.	Investigate the conditions required for differential reproductive success. Connect artificial selection as a model to learn about natural selection.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to evaluate conditions required for natural selection that result in differential reproductive success.	Evaluate how changes in the conditions required for natural selection affect the differential reproductive success in organisms.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to relate the conditions required for natural selection to differential reproductive success.	Summarize natural selection in terms of how overproduction of offspring, inherited variation, and struggle to survive lead to differential reproductive success.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify the conditions required for natural selection.	Given a scenario, identify which of the four principles of natural selection is illustrated. (overproduction of offspring, inherited variation, struggle to survive, and differential reproductive success)
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to define natural selection.	

**SC.912.L15.14:** Discuss mechanisms of evolutionary change other than natural selection such as genetic drift and gene flow. (Level 3: Strategic Thinking & Complex Reasoning)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
Score/Step 5.0	<input type="checkbox"/> I am able to assess the mechanisms resulting in evolutionary change.	Using a given scenario, predict the effect of genetic drift, nonrandom mating, and gene flow on a population.
Score/Step 4.0	<input type="checkbox"/> I am able to summarize the scientific mechanisms resulting in evolutionary change.	Use a graphic organizer to describe genetic drift, nonrandom mating, and gene flow with specific examples from nature.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to recognize some of the scientific mechanisms resulting in evolutionary change.	Distinguish between genetic drift, nonrandom mating, and gene flow.
Score/Step 2.0	<input type="checkbox"/> I am able to recognize one scientific mechanism that results in evolutionary change.	Define genetic drift, nonrandom mating, or gene flow.
Score/Step 1.0	<input type="checkbox"/> I am able to recognize life changes over time.	

**SC.912.L15.15:** Describe how mutation and genetic recombination increase genetic variation. (Level 3: Strategic Thinking & Complex Reasoning)

<b>SCALE</b>	<b>LEARNING PROGRESSION</b>	<b>SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES</b>
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to relate mutation and genetic recombination to an increase in genetic variation.	Design an experiment that would test the impact of increased genetic variation on a population and relate the cause of increased genetic variation to mutation or genetic recombination.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to relate how mutation and genetic recombination increase genetic variation.	Use a graphic organizer to show how mutation and genetic recombination leads to an increase in the genetic variation of a population.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to relate that mutation and genetic recombination increase genetic variation.	Distinguish between mutation and genetic recombination and relate each to increased genetic variation in a population.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to recall that mutation and genetic recombination increase genetic variation.	Identify causes of increased genetic variation in a population.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to understand there is genetic variation in a population.	

# **Biology 1 learning goals Standard 16 -**

**SC.912.L16.1:** Use Mendel’s laws of segregation and independent assortment to analyze patterns of inheritance. (*Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning)

**SC.912.L16.2:** Discuss observed inheritance patterns caused by various modes of inheritance, including dominant, recessive, codominant, sex-linked, polygenic, and multiple alleles. (*Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to use Mendel’s laws to analyze patterns of inheritance. <input type="checkbox"/> I am able to analyze and predict inheritance patterns caused by various modes of inheritance.	<ul style="list-style-type: none"> <li>Given a pedigree chart, analyze the specific mode of inheritance.</li> <li>Using both parental phenotypes create an offspring.</li> </ul>
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to relate use Mendel’s laws to analyze patterns of inheritance. <input type="checkbox"/> I am able to predict inheritance patterns caused by various modes of inheritance.	Given an offspring outcome (percent, ratio, or fraction), determine the parents’ genotype and phenotype and identify the mode of inheritance.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify inheritance patterns caused by various modes of inheritance, including Mendel’s laws.	Given two parental phenotypes or genotypes, use a Punnett square to predict potential offspring outcomes for any of the modes of inheritance listed below.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify inheritance patterns caused by various modes of inheritance.	Use a graphic organizer to differentiate between the following word pairs—dominant/recessive, phenotype/genotype, homozygous/heterozygous—as well as the meanings of the following modes of inheritance: co-dominance, incomplete dominance, polygenic, sex-linked, and multiple alleles.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recall that inheritance is the passage of genetic material from parent to offspring, and that Punnett squares can be used to predict offspring inheritance outcomes.	

**SC.912.L16.3:** Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic information. ( Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning)

**SC.912.L16.5:** Explain the basic processes of transcription and translation and how they result in the expression of genes. ( Cognitive Complexity: Level 3: Strategic Thinking & Complex Reasoning )

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to distinguish among the cellular processes of DNA replication, transcription, and translation.	<ul style="list-style-type: none"> <li>Using a given DNA nucleotide sequence, trace the pathway from replication to transcription and translation.</li> <li>Identify the corresponding protein sequence that will form based on the original DNA nucleotide sequence and what could occur if the original DNA sequence was changed in any way.</li> </ul>
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to differentiate the cellular processes of DNA replication, transcription, and translation.	Create a diagram demonstrating the processes of DNA replication, transcription and translation. Include descriptions of each process and how they differ from one another.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to differentiate the cellular processes of DNA replication, transcription, and translation.	Given a diagram of the processes of DNA replication, transcription and translation, identify the correct sequence of each process.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to choose the correct cellular process of DNA replication.	Given a diagram of the components of DNA replication, identify the correct sequence of replication.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to understand that every organism has hereditary information stored in DNA that get passed on from one generation to another.	

**SC.912.L16.8:** Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer. (Cognitive Complexity: Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
Score/Step 5.0	<input type="checkbox"/> I am able to assess how uncontrolled cell growth may result from mutations that affect the proteins that regulate the cell cycle.	Describe how to prevent cancer by preventing mutations.
Score/Step 4.0	<input type="checkbox"/> I am able to assess how uncontrolled cell growth may result from mutations that affect the proteins that regulate the cell cycle.	Given a scenario of a patient just diagnosed with cancer, trace the history of those cancer cells back to when they were healthy.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to state that mutations that affect the proteins that regulate the cell cycle may result in uncontrolled cell growth.	Sequence the events that result in uncontrolled cell growth: certain proteins regulate checkpoints in the cell cycle so that it proceeds normally, a mutation occurs in the DNA of a gene of one of these proteins, the wrong protein is made, the checkpoint is no longer properly regulated, cells divided without control.
Score/Step 2.0	<input type="checkbox"/> I am able to recall that uncontrolled cell growth may result in cancer.	Given two difference sequences that show normal cell division and uncontrolled cell division, describe the end result of each sequence.
Score/Step 1.0	<input type="checkbox"/> I am able to recall that cells divide in order to make more cells.	

**SC.912.L16.13:** Describe the basic anatomy and physiology of the human reproductive system. Describe the process of human development from fertilization to birth and major changes that occur in each trimester of pregnancy. (*Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I am able to relate the basic anatomy to the physiology of the human reproductive system.</li> <li><input type="checkbox"/> I am able to evaluate the major changes that occur during each trimester of human development.</li> </ul>	<ul style="list-style-type: none"> <li>• Choose any structure of the female and male reproductive system describe the effect it will have in the reproductive process if that structure is not present.</li> <li>• Develop a timeline of each of the major changes that occur during each trimester of human development.</li> </ul>
<b>Score/Step 4.0</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I am able to relate the basic anatomy to the physiology of the human reproductive system.</li> <li><input type="checkbox"/> I am able to summarize the major changes that occur during each trimester of human development.</li> </ul>	<ul style="list-style-type: none"> <li>• Complete a RAFT activity for a sperm and egg as they travel through the male and female reproductive system.</li> <li>• Create a brochure intended for parents describing the major changes that occur during each trimester of human development.</li> </ul>
<b>Score/Step 3.0 Target (Learning Goal)</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I am able to identify the basic anatomy and physiology of the human reproductive system.</li> <li><input type="checkbox"/> I am able to relate the major changes that occur during each trimester of human development.</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the function of each structure of the male and female reproductive system identified below.</li> <li>• Summarize the major changes that occur during each trimester of human development.</li> </ul>
<b>Score/Step 2.0</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I am able to identify the basic anatomy of the human reproductive system.</li> <li><input type="checkbox"/> I am able to identify the major changes that occur during each trimester of human development.</li> </ul>	<ul style="list-style-type: none"> <li>• Given a male diagram students will identify the following structures: seminal vesicle, prostate gland, vas deferens, urethra, epididymis, scrotum, penis, and testes.</li> <li>• Given a female diagram students will identify the following structures: ovaries, oviduct (fallopian tube), uterus, cervix, and vagina.</li> <li>• Given the main events of human development, organize the events into the three trimesters.</li> </ul>
<b>Score/Step 1.0</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I am able to understand the differences of the basic anatomy of the human reproductive system.</li> </ul>	

**SC.912.L16.14:** Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction. ( *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts )

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to relate specific events occurring to each of the stages of the cell cycle.	Develop an argument for the sequence of events in the cell cycle and justify their level of importance within the cell.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to relate specific events occurring to each of the stages of the cell cycle.	Given a random set of cell cycle events, sequence the events in their proper order.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to connect specific events to specific stages of the cell cycle.	Match the specific events of the cell cycle to the specific stages of the cell cycle to include G1, S, G2, the major stages of mitosis, and cytokinesis.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify specific events that occur in each of the stages of the cell cycle.	Given a diagram of each stage of the cell cycle, in the correct order, describe one event that is happening in that stage.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recall that when cells divide they first make a copy of the hereditary material, then divide it between the 2 resulting cells.	

**SC.912.L16.17:** Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation. (*Cognitive Complexity:* Level 3: Strategic Thinking &Complex Reasoning)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to differentiate the processes of mitosis and meiosis and/or show how these processes may contribute to or limit genetic variation.	Compare the level of genetic variation in a bacterial colony to the level of variation in an animal population. Defend an argument on how sexual reproduction increases the variability of a species and protects that species in terms of natural selection.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to differentiate the processes of mitosis and meiosis and describe how these processes may contribute to or limit genetic variation.	Make a cartoon or skit where the characters are cells going through mitosis and meiosis describing the processes of each with an emphasis on how, where, and when each process occurs.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to contrast the processes of mitosis and meiosis and specify if these processes may contribute to or limit genetic variation.	Make a graphic organizer that emphasizes the differences between mitosis and meiosis in chromosome number, genetic variation, number of cells produced, and type of reproduction.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to recognize that mitosis and meiosis are different processes that have different outcomes.	Make a Venn Diagram showing the similarities and differences between the final products of mitosis and meiosis and how those cells are used.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recall that reproduction can be asexual or sexual.	

# **Biology 1 learning goals Standard 17 -**

**SC.912.L17.4:** Describe changes in ecosystems resulting from seasonal variations, climate change, and succession. (*Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to predict the changes to an ecosystem resulting from seasonal variations, climate changes, and succession.	<ul style="list-style-type: none"> <li>• Apply concepts of seasonal variations to explain the difference among ecosystems.</li> <li>• Student based projects such as ecosystem presentations on the type of changes that affect each ecosystem. Examples can include how precipitation and fertility differ in rainforests and deciduous forests.</li> </ul>
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to predict the changes to an ecosystem resulting from seasonal variations, climate changes, and succession.	<ul style="list-style-type: none"> <li>• Create a foldable booklet of cause and effect of common environmental changes that affect ecosystems.</li> <li>• Examples can include the effect of seasonal variations of temperature and precipitation (forest fires, droughts, natural disasters) on soil fertility, organism interactions, and population dynamics.</li> </ul>
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to recognize potential changes to an ecosystem resulting from seasonal variations, climate changes, and/or succession.	Develop scenario cards of changes in ecosystems (seasonal variations, climate change and succession) and infer possible changes that will happen to the environment.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify the potential changes to an ecosystem resulting from seasonal variations, climate changes, and/or succession.	Recognize factors that change ecosystems and populations. (seasonal variations, climate change and succession)
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recognize difference in ecosystems.	

**SC.912.L17.5:** Analyze how population size is determined by births, deaths, immigration, emigration, and limiting factors (biotic and abiotic) that determine carrying capacity. (*Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to analyze data and information about population dynamics and limiting factors to explain a change in carrying capacity, the effect of population size, or the distribution of species in various types of ecosystems.	Design an experiment to test the effects of limiting factors on the growth of a sample population. (Examples of limiting factors can be either abiotic – temperature, nutrients or biotic – competition, predation, disease.)
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to evaluate data and information about population dynamics and limiting factors to account for a change in carrying capacity, the effect of population size, or the distribution of species in various types of ecosystems.	Evaluate given data from a population growth experiment to hypothesize the impact of limiting factors on the population size. (Examples of limiting factors can be either abiotic – temperature, nutrients or biotic – competition, predation, disease.)
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify limiting factors and other population dynamics.	Classify limiting factors as abiotic and biotic and predict their effect on population’s size. (Examples of limiting factors can be either abiotic – temperature, nutrients or biotic – competition, predation, disease.)
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify that population change over time.	Interpret a graph of a population’s growth over time.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to define a population.	

**SC.912.L17.8:** Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, nonnative species. (*Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to predict positive and negative consequences that may result from a reduction in biodiversity.	Analyze and synthesize information from scientific journals, local newspapers and other media sources to evaluate the impact of climate change on biodiversity.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to predict positive and/or negative consequences that may result from a reduction in biodiversity.	Assess the impact of the loss of biodiversity as a result of events such as natural disasters (hurricanes, tornadoes, fires, and tsunamis), climate change and human activities (pollution, habitat fragmentation, invasive species).
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify positive and/or negative consequences that may result from a reduction in biodiversity.	Create a graphic organizer that categorizes environmental scenarios as positive or negative and assesses the impact on biodiversity.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to recognize positive and/or negative consequences that may result from a reduction in biodiversity.	<ul style="list-style-type: none"> <li>• Classify given scenarios such as catastrophic events, climate change, human activities and invasive species as either having a positive or negative effect on biodiversity.</li> <li>• Example can include the negative impact on biological diversity of the introduction of the pythons to the Florida Everglades.</li> </ul>
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to define biodiversity.	

**SC.912.L17.9:** Use a food web to identify and distinguish producers, consumers, and decomposers. Explain the pathway of energy transfer through trophic levels and the reduction of available energy at successive trophic levels. (*Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to analyze the energy pathways through the different trophic levels of a food web or energy pyramid.	Connect the similarities of the flow of energy in terrestrial and aquatic ecosystems by comparing the ecological efficiencies of respective food chains.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to evaluate the energy pathways through the different trophic levels of a food web or energy pyramid.	Construct a food web and energy pyramid given a sample ecosystem. Organisms should be identified according to their trophic level.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to trace the energy pathways through the different trophic levels of a food web or energy pyramid.	Use a food chain pyramid chart and organism cards to organize them at the appropriate trophic level.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify from where a certain trophic level gets its energy.	Interpret a trophic energy pyramid to identify the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> trophic levels according to its source of energy.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recognize organisms as producers, consumers, and/or decomposers.	

**SC.912.L.17.11:** Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests. (*Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to analyze possible environmental impacts resulting from the use of renewable and nonrenewable resources.	<ul style="list-style-type: none"> <li>• Design a trade-off table to evaluate the costs and benefits for renewable and nonrenewable resources.</li> <li>• Develop and defend an argument in support of using renewable or nonrenewable resources.</li> </ul>
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to evaluate possible environmental impacts resulting from the use of renewable and nonrenewable resources.	<ul style="list-style-type: none"> <li>• Develop a foldable booklet that differentiates the environmental impacts of using renewable and nonrenewable resources.</li> <li>• Examples should include water, energy, fossil fuels, wildlife, and forests.</li> </ul>
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify possible environmental impacts resulting from the use of a nonrenewable resource.	Create a graphic organizer that compares the environmental impact of fossil fuels on the environment from extraction, processing and the burning of the fuel.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify possible environmental impacts that may result from the use of nonrenewable resources.	<ul style="list-style-type: none"> <li>• Categorize the impact of fossil fuels on the environment.</li> <li>• Examples should include coal, oil, and natural gas.</li> </ul>
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recognize that humans need resources on Earth and that these are either renewable or nonrenewable.	

**SC.912.L.17.20:** Predict the impact of individuals on environmental systems, and examine how human lifestyles affect sustainability. (*Cognitive Complexity*: Level 3: Strategic Thinking & Complex Reasoning)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to predict how the actions of humans may impact environmental systems and affect sustainability in the short and long term.	Research impacts humans have had on Earth and create solutions on how humans can be more sustainable. Defend a scientific claim using evidence and reasoning.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to predict how the actions of humans may impact environmental systems and affect sustainability.	<ul style="list-style-type: none"> <li>• Investigate the impact human have had on the environment.</li> <li>• Examples of investigations can include a acid deposition, biomagnification, effects of mining.</li> </ul>
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to relate how the actions of humans may impact environmental systems and/or affect sustainability.	Create a foldable booklet of cause and effect of common actions of humans that affect environmental systems and sustainability.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to recognize that an action of humans may impact the environment.	Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recognize that humans are part of the biosphere.	

# **Biology 1 learning goals Standard 18 -**

**SC.912.L.18.1:** Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules. ( Cognitive Complexity: Level 2: Basic Application of Skills & Concepts )

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to summarize the basic molecular structure and the primary function of macromolecules in organisms.	Develop an argument for each macromolecule and justify their level of importance in various organisms.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to summarize the basic molecular structure and the primary function of macromolecules in organisms.	Construct models of each of the four macromolecules and a Venn diagram that compares and contrasts the molecules based on elemental composition, structure, function.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify the basic molecular structure and the primary function of macromolecules in organisms.	Create a foldable that names the four macromolecules, describes two major functions of each, and identifies the basic molecular structure.
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify the primary function of the four macromolecules in organisms.	Match each macromolecule to a brief description of the various functions.
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recognize that there are four macromolecules.	

**SC.912.L.18.8:** Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration. ( *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts )

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to compare the processes of aerobic and anaerobic respiration.	Design an experiment using yeast that shows CO <sub>2</sub> is a product of both aerobic and alcoholic fermentation.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to identify the reactants, products, and basic functions of aerobic and anaerobic respiration.	<ul style="list-style-type: none"> <li>• Construct a Venn diagram that compares and contrast aerobic and anaerobic respiration</li> <li>• Create a concept map that shows the reactants and products of aerobic and anaerobic respiration.</li> </ul>
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to identify the reactants, products, or basic functions of aerobic and anaerobic respiration.	<ul style="list-style-type: none"> <li>• Compare and contrast aerobic and anaerobic respiration.</li> <li>• Compare and contrast lactic acid and alcoholic fermentation.</li> </ul>
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify the reactants, products, or basic functions of aerobic and anaerobic respiration.	<ul style="list-style-type: none"> <li>• Given the equation for aerobic cellular respiration, label the reactants and products.</li> <li>• Describe the basic functions of aerobic and anaerobic cellular respiration.</li> </ul>
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to identify that cellular respiration creates energy for the body.	

**SC.912.L.18.9:** Explain the interrelated nature of photosynthesis and cellular respiration. ( *Cognitive Complexity:* Level 2: Basic Application of Skills & Concepts )

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
Score/Step 5.0	<input type="checkbox"/> I am able to formulate how the processes of photosynthesis and cellular respiration are interrelated.	Investigate how the process of photosynthesis and cellular respiration are interrelated by observing changes in the concentration of carbon dioxide and oxygen during this processes.
Score/Step 4.0	<input type="checkbox"/> I am able to show how the processes of photosynthesis and cellular respiration are interrelated.	Draw a diagram that shows the cyclical nature of the processes of photosynthesis and cellular respiration.
Score/Step 3.0 Target (Learning Goal)	<input type="checkbox"/> I am able to show the interrelatedness of photosynthesis and cellular respiration.	<ul style="list-style-type: none"> <li>Given a diagram of the carbon-oxygen cycle, trace the flow of carbon dioxide, oxygen, water, and energy.</li> <li>Using a graphic organizer, compare and contrast the reactants and products, location in the cells, flow of energy, and organisms involved in the process of photosynthesis and cellular respiration.</li> </ul>
Score/Step 2.0	<input type="checkbox"/> I am able to recognize that photosynthesis and cellular respiration are related.	<ul style="list-style-type: none"> <li>Write the chemical equations of the process of photosynthesis and cellular respiration.</li> <li>Describe the relationship between the two processes. (i.e. the reactants of photosynthesis are the products of cellular respiration and vice versa)</li> </ul>
Score/Step 1.0	<input type="checkbox"/> I am able to recognize the importance of energy for all living things.	

**SC.912.L.18.10:** Connect the role of adenosine triphosphate (ATP) to energy transfers within a cell. ( *Cognitive Complexity:* Level 3: Strategic Thinking & Complex Reasoning )

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to connect the role of ATP to energy transfers within the cell.	Research and prepare a presentation of cellular processes that use or make ATP.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to connect the role of ATP to energy transfers within the cell.	Given physiological scenarios in plant and animal cells, identify how ATP is created and/or transfers energy.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to connect the role of ATP to energy transfers within the cell.	Explain the following analogy for the ATP-ADP cycle using the structure of the molecule (full battery-half battery).
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to recognize the importance of ATP to energy transfers within the cell.	<ul style="list-style-type: none"> <li>• Identify and describe the key parts of the ATP molecule.</li> <li>• Describe the relationship between ATP and ADP</li> </ul>
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to recognize that ATP is an energy-containing molecule.	

**SC.912.L.18.12:** Discuss the special properties of water that contribute to Earth’s suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent. (Cognitive Complexity: Level 2: Basic Application of Skills & Concepts)

SCALE	LEARNING PROGRESSION	SAMPLE PROGRESS MONITORING AND ASSESSMENT ACTIVITIES
<b>Score/Step 5.0</b>	<input type="checkbox"/> I am able to summarize the properties of water and analyze how these properties make water essential for life on Earth.	Rank the properties of water in order of importance to living things and explain your reasoning.
<b>Score/Step 4.0</b>	<input type="checkbox"/> I am able to summarize the properties of water and how these properties make water essential for life on Earth.	Investigate the properties of water and relate them to their importance to living things.
<b>Score/Step 3.0 Target (Learning Goal)</b>	<input type="checkbox"/> I am able to summarize the properties of water and relate how these properties make water essential for life on Earth.	<ul style="list-style-type: none"> <li>• Explain how polarity and hydrogen bonding affects each of the properties of water.</li> <li>• Given multiple biological scenarios identify the specific property of water being illustrated.</li> </ul>
<b>Score/Step 2.0</b>	<input type="checkbox"/> I am able to identify some properties of water that make water essential for life on Earth.	<ul style="list-style-type: none"> <li>• Illustrate the concept of polarity and hydrogen bonding using a water molecule.</li> <li>• Explain the properties of water at a conceptual level. (cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent)</li> </ul>
<b>Score/Step 1.0</b>	<input type="checkbox"/> I am able to identify water as essential for life.	

## Anti-Discrimination Policy

### Federal and State Laws

The School Board of Miami-Dade County, Florida adheres to a policy of nondiscrimination in employment and educational programs/activities and strives affirmatively to provide equal opportunity for all as required by:

**Title VI of the Civil Rights Act of 1964** - prohibits discrimination on the basis of race, color, religion, or national origin.

**Title VII of the Civil Rights Act of 1964 as amended** - prohibits discrimination in employment on the basis of race, color, religion, gender, or national origin.

**Title IX of the Education Amendments of 1972** - prohibits discrimination on the basis of gender.

**Age Discrimination in Employment Act of 1967 (ADEA) as amended** - prohibits discrimination on the basis of age with respect to individuals who are at least 40.

**The Equal Pay Act of 1963 as amended** - prohibits gender discrimination in payment of wages to women and men performing substantially equal work in the same establishment.

**Section 504 of the Rehabilitation Act of 1973** - prohibits discrimination against the disabled.

**Americans with Disabilities Act of 1990 (ADA)** - prohibits discrimination against individuals with disabilities in employment, public service, public accommodations and telecommunications.

**The Family and Medical Leave Act of 1993 (FMLA)** - requires covered employers to provide up to 12 weeks of unpaid, job-protected leave to "eligible" employees for certain family and medical reasons.

**The Pregnancy Discrimination Act of 1978** - prohibits discrimination in employment on the basis of pregnancy, childbirth, or related medical conditions.

**Florida Educational Equity Act (FEEA)** - prohibits discrimination on the basis of race, gender, national origin, marital status, or handicap against a student or employee.

**Florida Civil Rights Act of 1992** - secures for all individuals within the state freedom from discrimination because of race, color, religion, sex, national origin, age, handicap, or marital status.

**Title II of the Genetic Information Nondiscrimination Act of 2008 (GINA)** - prohibits discrimination against employees or applicants because of genetic information.

**Boy Scouts of America Equal Access Act of 2002** – no public school shall deny equal access to, or a fair opportunity for groups to meet on school premises or in school facilities before or after school hours, or discriminate against any group officially affiliated with Boy Scouts of America or any other youth or community group listed in Title 36 (as a patriotic society).

*Veterans are provided re-employment rights in accordance with P.L. 93-508 (Federal Law) and Section 295.07 (Florida Statutes), which stipulate categorical preferences for employment.*

#### In Addition:

**School Board Policies 1362, 3362, 4362, and 5517** - Prohibit harassment and/or discrimination against students, employees, or applicants on the basis of sex, race, color, ethnic or national origin, religion, marital status, disability, genetic information, age, political beliefs, sexual orientation, gender, gender identification, social and family background, linguistic preference, pregnancy, and any other legally prohibited basis. Retaliation for engaging in a protected activity is also prohibited.