

Inquiry Investigations™
Cellular World MODULE - 1271974
Grades: 7-10

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Alabama Courses of Study
Science
Grade 7

STANDARD	AL. 1.	Life Science - Students will:
OBJECTIVE	1.1.	<p>Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.</p> <ul style="list-style-type: none"> • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization • Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big • Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
OBJECTIVE	1.1.c.	<p>Additional Minimum Content: Identifying unicellular organisms, including bacteria and protists, by their methods of locomotion, reproduction, ingestion, excretion, and effects on other organisms</p> <ul style="list-style-type: none"> • Cell Growth: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	1.2.	<p>Identify functions of organelles found in eukaryotic cells, including the nucleus, cell membrane, cell wall, mitochondria, chloroplasts, and vacuoles. Example: mitochondria releasing energy for use in cellular respiration</p> <ul style="list-style-type: none"> • Cell Growth: Teacher Resource CD • Cell Process: Teacher Resource CD • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Structure and Function: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cells and Energy: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization

		<ul style="list-style-type: none"> • Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells • Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria • Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function • Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells • Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells • Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling • Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase • Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments • Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots • Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization • Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big • Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase • Why Cells Aren't Big: Virtual Lab
OBJECTIVE	1.2.a.	<p>Additional Minimum Content: Identifying components of the cell theory</p> <ul style="list-style-type: none"> • Cell Growth: Teacher Resource CD • Cell Process: Teacher Resource CD • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Structure and Function: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cells and Energy: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells • Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria • Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function • Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells • Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells • Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling • Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase • Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments • Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots • Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization • Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big • Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase

		<ul style="list-style-type: none"> Why Cells Aren't Big: Virtual Lab
OBJECTIVE	1.2.b.	<p>Additional Minimum Content: Identifying cells as prokaryotic or eukaryotic</p> <ul style="list-style-type: none"> Cell Structure and Function: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	1.2.c.	<p>Additional Minimum Content: Listing the sequence of the mitotic cell cycle</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	1.3.a.	<p>Additional Minimum Content: Arranging in order the organizational levels of the human body from the cell through organ systems</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big
OBJECTIVE	1.4.	<p>Describe organisms in the six-kingdom classification system by their characteristics.</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	1.5.	<p>Identify major differences between plants and animals, including internal structures, external structures, methods of locomotion, methods of reproduction, and stages of development.</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cells and Energy: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots
OBJECTIVE	1.5.a.	<p>Additional Minimum Content: Describing the processes of photosynthesis and cellular</p>

		<p>respiration</p> <ul style="list-style-type: none"> • Cells and Energy: Teacher Resource CD • Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling • Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments
OBJECTIVE	1.7.a.	<p>Additional Minimum Content: Classifying organisms as autotrophs or heterotrophs</p> <ul style="list-style-type: none"> • Cells and Energy: Teacher Resource CD • Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling
OBJECTIVE	1.8.	<p>Describe the function of chromosomes.</p> <ul style="list-style-type: none"> • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Structure and Function: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots • Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	1.9.	<p>Identify the process of chromosome reduction in the production of sperm and egg cells during meiosis.</p> <ul style="list-style-type: none"> • Cell Growth: Teacher Resource CD • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots • Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	1.10.	<p>Identify differences between deoxyribonucleic acid (DNA) and ribonucleic acid (RNA). Examples: DNA - double helix, contains thymine; RNA - single stranded, contains uracil</p> <ul style="list-style-type: none"> • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells
OBJECTIVE	1.10.a.	<p>Additional Minimum Content: Identifying Watson and Crick as scientists who discovered the shape of the DNA molecule</p> <ul style="list-style-type: none"> • Cell Structure and Function: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells

Grade 8

STANDARD	AL.1.	Physical Science - Students will:
OBJECTIVE	1.1.c.	Additional Minimum Content: Measuring dimension, volume, and mass using Systeme

		<p>International d'Unites (SI units)</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big
OBJECTIVE	1.1.e.	<p>Additional Minimum Content: Identifying appropriate laboratory glassware, balances, time measuring equipment, and optical instruments used to conduct an investigation</p> <ul style="list-style-type: none"> Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	1.6.a.	<p>Additional Minimum Content: Defining diffusion and osmosis</p> <ul style="list-style-type: none"> Cell Process: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big
OBJECTIVE	1.7.a.	<p>Additional Minimum Content: Explaining effects of temperature, concentration, surface area, and catalysts on the rate of chemical reactions</p> <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase

Grade 9

STANDARD	AL. 1.	Physical Science Core - Students will:
OBJECTIVE	1.4.	<p>Use nomenclature and chemical formulas to write balanced chemical equations.</p> <ul style="list-style-type: none"> Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase
OBJECTIVE	1.12.	Identify metric units for mass, distance, time, temperature, velocity, acceleration,

		<p>density, force, energy, and power.</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
STANDARD	AL.2.	Biology Core - Students will:
OBJECTIVE	2.1.	<p>Select appropriate laboratory glassware, balances, time measuring equipment, and optical instruments to conduct an experiment.</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.1.a.	<p>Additional Minimum Content: Describing the steps of the scientific method</p> <ul style="list-style-type: none"> Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.1.c.	<p>Additional Minimum Content: Identifying safe laboratory procedures when handling chemicals and using Bunsen burners and laboratory glassware</p> <ul style="list-style-type: none"> Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves

		<ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.1.d.	<p>Additional Minimum Content: Using appropriate SI units for measuring length, volume, and mass</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big
OBJECTIVE	2.2.	<p>Describe cell processes necessary for achieving homeostasis, including active and passive transport, osmosis, diffusion, exocytosis, and endocytosis.</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Process: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.2.b.	<p>Additional Minimum Content: Comparing the reaction of plant and animal cells in isotonic, hypotonic, and hypertonic solutions</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Process: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.2.c.	<p>Additional Minimum Content: Explaining how surface area, cell size, temperature, light, and pH affect cellular activities</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Process: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cells and Energy: Teacher Resource CD Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells

		<ul style="list-style-type: none"> Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.3.	<p>Identify reactants and products associated with photosynthesis and cellular respiration and the purposes of these two processes.</p> <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments
OBJECTIVE	2.4.	<p>Describe similarities and differences of cell organelles, using diagrams and tables.</p> <ul style="list-style-type: none"> Cell Process: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cells and Energy: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function
OBJECTIVE	2.4.a.	<p>Additional Minimum Content: Identifying scientists who contributed to the cell theory. Examples: Hooke, Schleiden, Schwann, Virchow, van Leeuwenhoek</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Process: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cells and Energy: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells

		<ul style="list-style-type: none"> Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.4.b.	<p>Additional Minimum Content: Distinguishing between prokaryotic and eukaryotic cells</p> <ul style="list-style-type: none"> Cell Structure and Function: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.4.c.	<p>Additional Minimum Content: Identifying various technologies used to observe cells. Examples: light microscope, scanning electron microscope, transmission electron microscope</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots
OBJECTIVE	2.5.	<p>Identify cells, tissues, organs, organ systems, organisms, populations, communities, and ecosystems as levels of organization in the biosphere.</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big
OBJECTIVE	2.5.a.	<p>Additional Minimum Content: Recognizing that cells differentiate to perform specific functions. Examples: ciliated cells to produce movement, nerve cells to conduct</p>

		<p>electrical charges</p> <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells
OBJECTIVE	2.6.	<p>Describe the roles of mitotic and meiotic divisions during reproduction, growth, and repair of cells.</p> <ul style="list-style-type: none"> • Cell Growth: Teacher Resource CD • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots • Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	2.6.a.	<p>Additional Minimum Content: Comparing sperm and egg formation in terms of ploidy. Example: ploidy - haploid, diploid</p> <ul style="list-style-type: none"> • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	2.6.b.	<p>Additional Minimum Content: Comparing sexual and asexual reproduction</p> <ul style="list-style-type: none"> • Cell Growth: Teacher Resource CD • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization • Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
OBJECTIVE	2.8.	<p>Identify the structure and function of DNA, RNA, and protein.</p> <ul style="list-style-type: none"> • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells
OBJECTIVE	2.8.a.	<p>Additional Minimum Content: Explaining relationships among DNA, genes, and chromosomes</p> <ul style="list-style-type: none"> • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Structure and Function: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots • Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	2.9.c.	<p>Additional Minimum Content: Identifying ways in which organisms from the Monera,</p>

		<p>Protista, and Fungi kingdoms are beneficial and harmful. Examples: beneficial - decomposers, harmful - diseases</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.10.	<p>Distinguish between monocots and dicots, angiosperms and gymnosperms, and vascular and nonvascular plants.</p> <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.10.a.	<p>Additional Minimum Content: Describing the histology of roots, stems, leaves, and flowers</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cells and Energy: Teacher Resource CD
OBJECTIVE	2.10.b.	<p>Additional Minimum Content: Recognizing chemical and physical adaptations of plants. Examples: chemical - foul odor, bitter taste, toxicity; physical - spines, needles, broad leaves</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cells and Energy: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots
OBJECTIVE	2.11.	<p>Classify animals according to type of skeletal structure, method of fertilization and reproduction, body symmetry, body coverings, and locomotion. Examples: skeletal structure - vertebrates, invertebrates; fertilization - external, internal; reproduction - sexual, asexual; body symmetry - bilateral, radial, asymmetrical; body coverings - feathers, scales, fur; locomotion - cilia, flagella, pseudopodia</p> <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.13.b.	<p>Additional Minimum Content: Contrasting autotrophs and heterotrophs</p> <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling
OBJECTIVE	2.16.a.	<p>Additional Minimum Content: Discriminating among symbiotic relationships, including mutualism, commensalism, and parasitism</p> <ul style="list-style-type: none"> Cell Structure and Function: Teacher Resource CD

STANDARD	AL.3.	Chemistry Core - Students will:
OBJECTIVE	3.1.	Differentiate among pure substances, mixtures, elements, and compounds. <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments
OBJECTIVE	3.4.	Describe solubility in terms of energy changes associated with the solution process. <ul style="list-style-type: none"> Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments
OBJECTIVE	3.9.	Distinguish between chemical and nuclear reactions. <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
STANDARD	AL.5.	Aquascience Elective Core - Students will:
OBJECTIVE	5.7.	Describe processes and environmental characteristics that affect growth rates of aquatic animals. Examples: reproductive habits, feeding habits, interdependence of organisms, overcrowding, seasonal changes <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
STANDARD	AL.6.	Botany Elective Core - Students will:
OBJECTIVE	6.1.	Identify the twelve plant kingdom divisions. <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	6.1.a.	Additional Minimum Content: Classifying native Alabama plants using dichotomous keys <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	6.3.	List plant adaptations required for life on land. <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD
OBJECTIVE	6.3.b.	Additional Minimum Content: Comparing characteristics of algae and plants <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD
OBJECTIVE	6.4.	Identify major types of plant tissues found in roots, stems, and leaves. Examples: parenchyma, sclerenchyma, collenchyma <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cells and Energy: Teacher Resource CD

OBJECTIVE	6.5.	<p>Identify types of roots, stems, and leaves. Examples: roots - tap, fibrous; stems - herbaceous, woody; leaves - simple, compound</p> <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD • Cells and Energy: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells • Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria • Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function • Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots
OBJECTIVE	6.6.	<p>Explain the importance of soil type, texture, and nutrients to plant growth.</p> <ul style="list-style-type: none"> • Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots
OBJECTIVE	6.7.	<p>Explain plant cell processes, including light dependent and light independent reactions of photosynthesis, glycolysis, aerobic and anaerobic respiration, and transport.</p> <ul style="list-style-type: none"> • Cells and Energy: Teacher Resource CD • Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling • Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments
OBJECTIVE	6.11.	<p>Describe various natural and artificial methods of vegetative propagation. Examples: natural - stem runners, rhizomes, bulbs, tubers; artificial - cutting, grafting, layering</p> <ul style="list-style-type: none"> • Cell Growth: Teacher Resource CD • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization • Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
STANDARD	AL.7.	Earth and Space Science Elective Core - Students will:
OBJECTIVE	7.12.	<p>Describe challenges and required technologies for space exploration.</p> <ul style="list-style-type: none"> • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	7.12.c.	<p>Additional Minimum Content: Identifying new instrumentation and communication technologies needed for space information gathering. Examples: Mars Exploration Rover, Cassini spacecraft and Huygens probe, Gravity Probe B</p> <ul style="list-style-type: none"> • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
STANDARD	AL.9.	Forensic Science Elective Core - Students will:
OBJECTIVE	9.10.	<p>Describe techniques used to determine the validity of documents. Examples: fiber and handwriting analyses, ink chromatography</p>

		<ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD
STANDARD	AL. 10.	Genetic Elective Core - Students will:
OBJECTIVE	10.4.	<p>Describe the process of meiosis and the cell cycle, including the hereditary significance of each.</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
OBJECTIVE	10.4.a.	<p>Additional Minimum Content: Comparing spermatogenesis and oogenesis using charts</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
OBJECTIVE	10.7.	<p>Describe the structure and function of DNA, including replication, translation, and transcription.</p> <ul style="list-style-type: none"> Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	10.7.a.	<p>Additional Minimum Content: Applying the genetic code to predict amino acid sequence</p> <ul style="list-style-type: none"> Cell Structure and Function: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells
OBJECTIVE	10.8.	<p>Explain the structure of eukaryotic chromosomes, including transposons, introns, and exons.</p> <ul style="list-style-type: none"> Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization

STANDARD	AL. 11.	Geology Elective Core - Students will:
OBJECTIVE	11.9.	Describe the movement and storage of water in terms of watersheds, rainfall, surface runoff, aquifers, and surface water reservoirs. <ul style="list-style-type: none"> • Cells and Energy: Teacher Resource CD • Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big
STANDARD	AL. 12.	Human Anatomy and Physiology Elective Core - Students will:
OBJECTIVE	12.3.	Classify major types of cells, including squamous, cuboidal, columnar, simple, and stratified. <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells
OBJECTIVE	12.4.	Classify tissues as connective, muscular, nervous, or epithelial. <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization
OBJECTIVE	12.9.	Identify structures and functions of the cardiovascular system. <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD
OBJECTIVE	12.9.a.	Additional Minimum Content: Tracing the flow of blood through the body <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD
OBJECTIVE	12.9.e.	Additional Minimum Content: Describing common cardiovascular diseases and disorders. Examples: myocardial infarction, mitral valve prolapse, varicose veins, arteriosclerosis <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD
STANDARD	AL. 13.	Marine Science Elective Core - Students will:
OBJECTIVE	13.8.	Describe characteristics of marine plant and algae divisions. <ul style="list-style-type: none"> • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	13.9.c.	Additional Minimum Content: Identifying characteristics of marine invertebrates. Examples: Protozoa, Porifera, Coelenterata, Arthropoda <ul style="list-style-type: none"> • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
STANDARD	AL. 14.	Zoology Elective Core - Students will:
OBJECTIVE	14.4.	Use taxonomic groupings to differentiate the structure and physiology of invertebrates with dichotomous keys.

		<ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	14.5.d.	<p>Additional Minimum Content: Identifying examples and characteristics of Aves</p> <ul style="list-style-type: none"> Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types
OBJECTIVE	14.7.	<p>Explain how species adapt to changing environments to enhance survival and reproductive success, including changes in structure, behavior, or physiology. Examples: aestivation, thicker fur, diurnal activity</p> <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD
OBJECTIVE	14.8.a.	<p>Additional Minimum Content: Identifying causative factors of decreasing population size. Examples: overcrowding resulting in greater incidence of disease, fire destroying habitat and food sources</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves

Grade 10

STANDARD	AL.1.	Physical Science Core - Students will:
OBJECTIVE	1.4.	<p>Use nomenclature and chemical formulas to write balanced chemical equations.</p> <ul style="list-style-type: none"> Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase
OBJECTIVE	1.12.	<p>Identify metric units for mass, distance, time, temperature, velocity, acceleration, density, force, energy, and power.</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
STANDARD	AL.2.	Biology Core - Students will:
OBJECTIVE	2.1.	<p>Select appropriate laboratory glassware, balances, time measuring equipment, and optical instruments to conduct an experiment.</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization

		<ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.1.a.	<p>Additional Minimum Content: Describing the steps of the scientific method</p> <ul style="list-style-type: none"> Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.1.c.	<p>Additional Minimum Content: Identifying safe laboratory procedures when handling chemicals and using Bunsen burners and laboratory glassware</p> <ul style="list-style-type: none"> Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.1.d.	<p>Additional Minimum Content: Using appropriate SI units for measuring length, volume, and mass</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big
OBJECTIVE	2.2.	<p>Describe cell processes necessary for achieving homeostasis, including active and passive transport, osmosis, diffusion, exocytosis, and endocytosis.</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Process: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization

		<ul style="list-style-type: none"> Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.2.b.	<p>Additional Minimum Content: Comparing the reaction of plant and animal cells in isotonic, hypotonic, and hypertonic solutions</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Process: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.2.c.	<p>Additional Minimum Content: Explaining how surface area, cell size, temperature, light, and pH affect cellular activities</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Process: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cells and Energy: Teacher Resource CD Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.3.	Identify reactants and products associated with photosynthesis and cellular respiration

		<p>and the purposes of these two processes.</p> <ul style="list-style-type: none"> • Cells and Energy: Teacher Resource CD • Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling • Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments
OBJECTIVE	2.4.	<p>Describe similarities and differences of cell organelles, using diagrams and tables.</p> <ul style="list-style-type: none"> • Cell Process: Teacher Resource CD • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Structure and Function: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cells and Energy: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells • Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria • Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function
OBJECTIVE	2.4.a.	<p>Additional Minimum Content: Identifying scientists who contributed to the cell theory. Examples: Hooke, Schleiden, Schwann, Virchow, van Leeuwenhoek</p> <ul style="list-style-type: none"> • Cell Growth: Teacher Resource CD • Cell Process: Teacher Resource CD • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Structure and Function: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cells and Energy: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells • Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria • Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function • Cellular World Unit 3 Lab 3 Activity 1 Osmoregulation in Cells • Cellular World Unit 3 Lab 3 Activity 2 Osmosis and Diffusion in Model Cells • Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling • Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase • Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments • Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots • Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis • Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization • Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big • Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for

		<p>Catalase</p> <ul style="list-style-type: none"> • Why Cells Aren't Big: Virtual Lab
OBJECTIVE	2.4.b.	<p>Additional Minimum Content: Distinguishing between prokaryotic and eukaryotic cells</p> <ul style="list-style-type: none"> • Cell Structure and Function: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.4.c.	<p>Additional Minimum Content: Identifying various technologies used to observe cells. Examples: light microscope, scanning electron microscope, transmission electron microscope</p> <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells • Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria • Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots
OBJECTIVE	2.5.	<p>Identify cells, tissues, organs, organ systems, organisms, populations, communities, and ecosystems as levels of organization in the biosphere.</p> <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big
OBJECTIVE	2.5.a.	<p>Additional Minimum Content: Recognizing that cells differentiate to perform specific functions. Examples: ciliated cells to produce movement, nerve cells to conduct electrical charges</p> <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells
OBJECTIVE	2.6.	<p>Describe the roles of mitotic and meiotic divisions during reproduction, growth, and repair of cells.</p> <ul style="list-style-type: none"> • Cell Growth: Teacher Resource CD • Cell Reproduction and the Cell Cycle: Teacher Resource CD • Cell Types and Organization: Teacher Resource CD • Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots • Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis

		<ul style="list-style-type: none"> Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	2.6.a.	<p>Additional Minimum Content: Comparing sperm and egg formation in terms of ploidy. Example: ploidy - haploid, diploid</p> <ul style="list-style-type: none"> Cell Reproduction and the Cell Cycle: Teacher Resource CD Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	2.6.b.	<p>Additional Minimum Content: Comparing sexual and asexual reproduction</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
OBJECTIVE	2.8.	<p>Identify the structure and function of DNA, RNA, and protein.</p> <ul style="list-style-type: none"> Cell Structure and Function: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells
OBJECTIVE	2.8.a.	<p>Additional Minimum Content: Explaining relationships among DNA, genes, and chromosomes</p> <ul style="list-style-type: none"> Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	2.9.c.	<p>Additional Minimum Content: Identifying ways in which organisms from the Monera, Protista, and Fungi kingdoms are beneficial and harmful. Examples: beneficial - decomposers, harmful - diseases</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.10.	<p>Distinguish between monocots and dicots, angiosperms and gymnosperms, and vascular and nonvascular plants.</p> <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase

OBJECTIVE	2.10.a.	Additional Minimum Content: Describing the histology of roots, stems, leaves, and flowers <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cells and Energy: Teacher Resource CD
OBJECTIVE	2.10.b.	Additional Minimum Content: Recognizing chemical and physical adaptations of plants. Examples: chemical - foul odor, bitter taste, toxicity; physical - spines, needles, broad leaves <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cells and Energy: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots
OBJECTIVE	2.11.	Classify animals according to type of skeletal structure, method of fertilization and reproduction, body symmetry, body coverings, and locomotion. Examples: skeletal structure - vertebrates, invertebrates; fertilization - external, internal; reproduction - sexual, asexual; body symmetry - bilateral, radial, asymmetrical; body coverings - feathers, scales, fur; locomotion - cilia, flagella, pseudopodia <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	2.13.b.	Additional Minimum Content: Contrasting autotrophs and heterotrophs <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling
OBJECTIVE	2.16.a.	Additional Minimum Content: Discriminating among symbiotic relationships, including mutualism, commensalism, and parasitism <ul style="list-style-type: none"> Cell Structure and Function: Teacher Resource CD
STANDARD	AL.3.	Chemistry Core - Students will:
OBJECTIVE	3.1.	Differentiate among pure substances, mixtures, elements, and compounds. <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments
OBJECTIVE	3.4.	Describe solubility in terms of energy changes associated with the solution process. <ul style="list-style-type: none"> Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments
OBJECTIVE	3.9.	Distinguish between chemical and nuclear reactions.

		<ul style="list-style-type: none"> • Cells and Energy: Teacher Resource CD • Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling • Cellular World Unit 4 Lab 4 Activity 2 A Closer Look at Catalase • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
STANDARD	AL.5.	Aquascience Elective Core - Students will:
OBJECTIVE	5.7.	Describe processes and environmental characteristics that affect growth rates of aquatic animals. Examples: reproductive habits, feeding habits, interdependence of organisms, overcrowding, seasonal changes <ul style="list-style-type: none"> • Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
STANDARD	AL.6.	Botany Elective Core - Students will:
OBJECTIVE	6.1.	Identify the twelve plant kingdom divisions. <ul style="list-style-type: none"> • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	6.1.a.	Additional Minimum Content: Classifying native Alabama plants using dichotomous keys <ul style="list-style-type: none"> • Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	6.3.	List plant adaptations required for life on land. <ul style="list-style-type: none"> • Cells and Energy: Teacher Resource CD
OBJECTIVE	6.3.b.	Additional Minimum Content: Comparing characteristics of algae and plants <ul style="list-style-type: none"> • Cells and Energy: Teacher Resource CD
OBJECTIVE	6.4.	Identify major types of plant tissues found in roots, stems, and leaves. Examples: parenchyma, sclerenchyma, collenchyma <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD • Cells and Energy: Teacher Resource CD
OBJECTIVE	6.5.	Identify types of roots, stems, and leaves. Examples: roots - tap, fibrous; stems - herbaceous, woody; leaves - simple, compound <ul style="list-style-type: none"> • Cell Types and Organization: Teacher Resource CD • Cells and Energy: Teacher Resource CD • Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization • Cellular World Unit 2 Lab 2 Activity 1 Comparison of Plant and Animal Cell Organelles • Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells • Cellular World Unit 2 Lab 2 Activity 3 Identification of Mitochondria • Cellular World Unit 2 Lab 2 Activity 4 Plant Cell Structure and Function • Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion

		Roots
OBJECTIVE	6.6.	<p>Explain the importance of soil type, texture, and nutrients to plant growth.</p> <ul style="list-style-type: none"> Cellular World Unit 5 Lab 5 Activity 1 Growth and Preparation of Onion Roots
OBJECTIVE	6.7.	<p>Explain plant cell processes, including light dependent and light independent reactions of photosynthesis, glycolysis, aerobic and anaerobic respiration, and transport.</p> <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD Cellular World Unit 4 Lab 4 Activity 1 Investigating Carbon Cycling Cellular World Unit 4 Lab 4 Activity 3 Investigating Plant Pigments
OBJECTIVE	6.11.	<p>Describe various natural and artificial methods of vegetative propagation. Examples: natural - stem runners, rhizomes, bulbs, tubers; artificial - cutting, grafting, layering</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
STANDARD	AL.7.	Earth and Space Science Elective Core - Students will:
OBJECTIVE	7.12.	<p>Describe challenges and required technologies for space exploration.</p> <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	7.12.c.	<p>Additional Minimum Content: Identifying new instrumentation and communication technologies needed for space information gathering. Examples: Mars Exploration Rover, Cassini spacecraft and Huygens probe, Gravity Probe B</p> <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
STANDARD	AL.9.	Forensic Science Elective Core - Students will:
OBJECTIVE	9.10.	<p>Describe techniques used to determine the validity of documents. Examples: fiber and handwriting analyses, ink chromatography</p> <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD
STANDARD	AL.10.	Genetic Elective Core - Students will:
OBJECTIVE	10.4.	<p>Describe the process of meiosis and the cell cycle, including the hereditary significance of each.</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis

		<ul style="list-style-type: none"> Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
OBJECTIVE	10.4.a.	<p>Additional Minimum Content: Comparing spermatogenesis and oogenesis using charts</p> <ul style="list-style-type: none"> Cell Growth: Teacher Resource CD Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves
OBJECTIVE	10.7.	<p>Describe the structure and function of DNA, including replication, translation, and transcription.</p> <ul style="list-style-type: none"> Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
OBJECTIVE	10.7.a.	<p>Additional Minimum Content: Applying the genetic code to predict amino acid sequence</p> <ul style="list-style-type: none"> Cell Structure and Function: Teacher Resource CD Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells
OBJECTIVE	10.8.	<p>Explain the structure of eukaryotic chromosomes, including transposons, introns, and exons.</p> <ul style="list-style-type: none"> Cell Reproduction and the Cell Cycle: Teacher Resource CD Cell Structure and Function: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells Cellular World Unit 5 Lab 5 Activity 2 Observing the Cell Cycle in Onion Roots Cellular World Unit 5 Lab 5 Activity 3 Modeling Mitosis Cellular World Unit 5 Lab 5 Activity 4 Modeling Meiosis and Fertilization
STANDARD	AL.11.	Geology Elective Core - Students will:
OBJECTIVE	11.9.	<p>Describe the movement and storage of water in terms of watersheds, rainfall, surface runoff, aquifers, and surface water reservoirs.</p> <ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD Cellular World Unit 6 Lab 6 Activity 1 Understanding Why Cells Aren't Big
STANDARD	AL.12.	Human Anatomy and Physiology Elective Core - Students will:
OBJECTIVE	12.3.	<p>Classify major types of cells, including squamous, cuboidal, columnar, simple, and stratified.</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD

		<ul style="list-style-type: none"> Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization Cellular World Unit 2 Lab 2 Activity 2 Identification of DNA and RNA in Plant Cells
OBJECTIVE	12.4.	<p>Classify tissues as connective, muscular, nervous, or epithelial.</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types Cellular World Unit 1 Lab 1 Activity 2 Learning About Cell Organization
OBJECTIVE	12.9.	<p>Identify structures and functions of the cardiovascular system.</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD
OBJECTIVE	12.9.a.	<p>Additional Minimum Content: Tracing the flow of blood through the body</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD
OBJECTIVE	12.9.e.	<p>Additional Minimum Content: Describing common cardiovascular diseases and disorders. Examples: myocardial infarction, mitral valve prolapse, varicose veins, arteriosclerosis</p> <ul style="list-style-type: none"> Cell Types and Organization: Teacher Resource CD
STANDARD	AL.13.	Marine Science Elective Core - Students will:
OBJECTIVE	13.8.	<p>Describe characteristics of marine plant and algae divisions.</p> <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	13.9.c.	<p>Additional Minimum Content: Identifying characteristics of marine invertebrates. Examples: Protozoa, Porifera, Coelenterata, Arthropoda</p> <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
STANDARD	AL.14.	Zoology Elective Core - Students will:
OBJECTIVE	14.4.	<p>Use taxonomic groupings to differentiate the structure and physiology of invertebrates with dichotomous keys.</p> <ul style="list-style-type: none"> Cellular World Unit 7 Lab 7 Activity 1 Developing a Biochemical Test for Catalase
OBJECTIVE	14.5.d.	<p>Additional Minimum Content: Identifying examples and characteristics of Aves</p> <ul style="list-style-type: none"> Cellular World Unit 1 Lab 1 Activity 1 Learning About Cell Types
OBJECTIVE	14.7.	<p>Explain how species adapt to changing environments to enhance survival and reproductive success, including changes in structure, behavior, or physiology. Examples: aestivation, thicker fur, diurnal activity</p>

		<ul style="list-style-type: none"> Cells and Energy: Teacher Resource CD
OBJECTIVE	14.8.a.	<p>Additional Minimum Content: Identifying causative factors of decreasing population size. Examples: overcrowding resulting in greater incidence of disease, fire destroying habitat and food sources</p> <ul style="list-style-type: none"> Cellular World Unit 6 Lab 6 Activity 2 Investigating Cell Growth Curves

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