

**Life Science – Grade3  
Standard 1**

<b>Standard: 1.</b> Classify plants and animals according to the physical characteristics that they share
<b>Essential Guiding Question:</b> How are living things classified?
<b>Focus Questions:</b> What is a plant? What is an animal? What is a characteristic? What does it mean to classify things?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
<p>Students will be able to recognize similarities and differences in plants and animals</p> <p>Students will understand that animals are divided into vertebrates and invertebrates according to whether or not they have a skeleton</p> <p>Students will be able to identify the five types of vertebrates (mammal, fish, reptile, bird, and amphibian) and be able to list characteristics of each</p>	<p>Sort plant/animal pictures - 3.4.2. TE pg 45</p> <p>Hanger Activity</p> <p>Display Characteristics</p> <p>Research Projects</p> <p>Create a simple chart to classify plants and animals that are common to the school's geographical area - T/E 2.2</p>	<p>Classification Project</p> <p>Sort Plant and Animal Pictures based on Physical Characteristics</p> <p>Use a Dichotomous Key to Identify Plants</p> <p>Vertebrate Activity (done in lab)</p>	<p>Grade 3 Binder</p> <p>Observation Area:</p> <p>Research Materials</p> <p>Animal Pictures</p> <p>Thornton Burgess may come in to do invertebrate activity</p>	<p>September-October</p>

**Life Science – Grade3  
Standard 2**

<b>Standard: 2.</b> Identify the structures in plants (leaves, roots, flowers, stem, bark, wood) that are responsible for food production, support, water transport, reproduction, growth, and protection
<b>Essential Guiding Question:</b> What role does each part of a plant play in its life?
<b>Focus Questions:</b> What do plants need to do to survive? What are the different parts of plants – leaves, roots, flowers, stem, bark, wood? What is the job of each part?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
<p>Students will be able to identify the parts of plants in a general way</p> <p>Students will be able to identify the parts of one selected plant, such as a bean, and tell what the parts do</p>	<p>Dissect Bean Seeds</p> <p>Grow Bean Plants</p> <p>Discuss Parts</p> <p>Draw and Label Parts</p> <p>Discuss Role of Sun and Water in Photosynthesis</p> <p>Observe Plant Pollinator</p> <p>Interaction and Seed Dispersal Methods</p> <p>Study Maple Trees and Go Maple Sugaring</p> <p>Identify the Structures in the Maple Tree and Their Functions</p> <p>Discussion</p> <p>Observation</p>	<p>Observation</p> <p>Bean Drawing</p> <p>Collect plants</p> <p>Make a Detailed Drawing of a Plant</p> <p>Identify and Label Major Structures (i.e., leaves, flowers, stems, roots, seeds)</p> <p>Describe the Function of Each Structure. (T/E 2.2, 2.3)</p> <p>Activity (done in lab, germinating beans and growing seedling come to homeroom, then return to lab following cycle)</p>	<p>Dried Beans</p> <p>Planting Cups</p> <p>Soil</p>	<p>September-October</p>

**Life Science – Grade3  
Standard 3**

<b>Standard: 3.</b> Recognize that plants and animals go through predictable life cycles that include birth, growth, development, reproduction, death
<b>Essential Guiding Question:</b> What is a life cycle?
<b>Focus Questions:</b> Do plants and animals have predictable life cycles? How do plants and animals reproduce themselves?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
Students will use their knowledge of plant parts and the role each plays to understand that organisms go through predictable changes and stages in their lives	Seed sort; A Great Start; Seed Experiment; From Seed to Plant.  Seed Germination  Grow Plants from Seed  Document the Complete Life Cycle of the Plant  Describe the Emergence of Structures and their Functions  Record Changes in Height and Graph the Data	Life Cycle Paragraph  Design and Construct a Habitat for a Small Animal (that has adequate space and contains the necessities for survival) T/E 1.1, 1,2, 2,1, 2,2, 2,3	Grade 3 Binder  Seed  Soil  Pots  Bags	September-October

**Life Science – Grade3  
Standard 6**

<b>Standard: 6.</b> Give examples of how inherited characteristics may change over time as adaptations to change in the environment that enable organisms to survive, e.g., shape of beak or feet, placement of eyes on head, length of neck, shape of teeth, color
<b>Essential Guiding Question:</b> Why do some animals survive in an environment and some do not?
<b>Focus Questions:</b> What is an adaptation? What is an environment? What are predators? What is prey? What are behaviors? What are characteristics? Where do characteristics come from? What helps animals or plants survive? What causes animals or plants to die?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
<p>Students will recognize that not all species will survive at the same rate in an environment</p> <p>Students will be able to recognize connections between body parts or behaviors and the survival of an animal or plant</p> <p>Students will understand that inherited characteristics may change over time according to the survival rate of a species in a particular environment</p> <p>Students will associate survival with the predator/prey relationship and also with environmental conditions such as seasonal changes</p>	<p>3.2.1: TE pg 159; Word Web; TE 3.2.1 173c</p> <p>Students will Discuss Adaptations in Lab and Identify Adaptations of Chosen Organism in Vertebrate Project</p> <p>Compare and contrast Physical Characteristics of Plants or Animals from Widely Different Environments (e.g., desert vs. tropical plants, aquatic vs. terrestrial animals)</p> <p>Explore How Each is Adapted to its Environment.</p>	<p>Observation</p> <p>Short Writing Piece</p>	<p>TE</p>	<p>September-October</p>

**Life Science – Grade 3  
Standard 9**

<b>Standard: 9.</b> Recognize plant behaviors, such as the way seedlings’ stems grow toward light and their roots grown downward in response to gravity. Recognize that many plants and animals can survive harsh environments because of seasonal behaviors, e.g., in winter, some trees shed leaves, some animals hibernate, and other animals migrate.
<b>Essential Guiding Question:</b> How do plant and animal behaviors help them survive in environments?
<b>Focus Questions:</b> What do plants and animals need to survive? How do their own behaviors help them get what they need? What do plants and animals do when the seasons change? What is hibernation? What is migration?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
<p>Students will recognize that plants and animals need to do certain things such as shed leaves, hibernate, go dormant, or migrate when the seasons change</p> <p>Students will understand that plants will develop mechanisms such as phototropism in order to get their needs met</p>	<p>Discussion Outdoor walks and Observation Journaling Changes in Environment Seasonally</p> <p>Students will “adopt a plant” (outdoor plant) in lab and observe changes, draw, and discuss over seasons.</p>	<p>Observation Journal Entries</p>	<p>Journals</p>	<p>September-October</p>

**Life Science – Grade 3  
Standard 11**

<b>Standard: 11.</b> Describe how energy derived from the sun is used by plants to produce sugars (photosynthesis) and is transferred within a food chain from producers (plants) to consumers to decomposers
<b>Essential Guiding Question:</b> How do plants get the energy they need to survive?
<b>Focus Questions:</b> What role do plants play in life on this planet? What role does the sun play in life on this planet? Why do we need plants?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
Students will understand that the sun is an essential energy source for plants and plants are essential for our survival	Read <u>Photosynthesis</u>  Discussion – How Plants Get Energy and Pass it on to Other Organisms	Notes in Lab Journal	<u>Photosynthesis</u>	September-October

**Earth Science – Grade 3  
Standard 6**

<b>Standard: 6.</b> Explain how air temperature, moisture, wind speed and direction, and precipitation make up the weather in a particular place and time
<b>Essential Guiding Question:</b> What is weather?
<b>Focus Questions:</b> What is temperature? What is moisture?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
<p>Students will understand that weather is changeable from day to day, but that it follows predictable patterns by season</p> <p>Students will understand that no one aspect of weather, such as wind speed, can be called the weather, but that it is a combination of factors</p>	<p>Discussion Video</p>	<p>Journal Entries Teacher Observation</p>		<p>November – mid-January</p>

**Earth Science – Grade 3  
Standard 7**

<b>Standard: 7.</b> Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time
<b>Essential Guiding Question:</b> What are the different forms that water can take when it falls from the clouds?
<b>Focus Questions:</b> What is a crystal? What is evaporation and condensation? What is precipitation? What does a cross-section of a hailstone look like?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
<p>Students will understand that forms of precipitation can be crystals or droplets, or small layered balls of ice</p> <p>Students will understand that water rises to the clouds because it breaks free from liquid water in the form of vapor</p> <p>Students will understand that the vaporized molecules condense into a liquid or solid form and then fall</p>	<p>3.3.3 TE pg 337; Tis the Season for Snow Activities Weather Watch</p>	<p>ORQ – Tell about the different forms of precipitation</p>	<p>Grade 3 Binder Library</p>	<p>November – mid-January</p>

**Earth Science – Grade 3  
Standard 10**

<b>Standard: 10.</b> Describe how water on earth cycles in different forms and in different locations, including underground and in the atmosphere
<b>Essential Guiding Question:</b> How does water on this planet keep going around in a never-ending cycle?
<b>Focus Questions:</b> What are the locations on this planet where we can find water? Is it only in bodies of water like lakes or oceans? What are the parts of its cycle?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
Students will gain a basic understanding on the water cycle and have experience with it	Water Cycle Bag Activity Watery Wheel Model A Raindrops Journey Water Cycle Song Step by Step bracelets	Water Cycle Test (includes 3 ORQ's) Model	Grade 3 Binder MSB Inside Waterworks Video	November – mid-January

**Earth Science – Grade 3  
Standard 12**

<b>Standard: 12.</b> Give examples of how the surface of the earth changes due to slow processes such as erosion and weathering and rapid processes such as landslides, volcanic eruptions, and earthquakes (3 <sup>rd</sup> grade glaciers and volcanoes)
<b>Essential Guiding Question:</b> What are the kinds of things that change the surface of the earth?
<b>Focus Questions:</b> What is a glacier? What effects does a glacier have on earth’s surface? What are earthquakes? What causes them? Where do they occur?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
Students will gain basic knowledge of the properties of glaciers and how volcanoes are formed	3.3.5 Practice Book 3.1 page 141 Create Glacier Model Create Erosion Model			November – mid-January

**Physical Science – Grade3  
Standard 1**

<b>Standard: 1.</b> Sort objects by observable properties such as size, shape, color, weight, and texture
<b>Essential Guiding Question:</b> How are things different and how are they the same?
<b>Focus Questions:</b> What does it mean to sort? Can there be more than one way to sort things?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
Students will review sorting and classifying and be able to give explanations for their choices	Discussion  Practice with Manipulatives	Teacher Observation	Shells  Blocks  Shapes	March – mid - May

**Physical Science – Grade3  
Standard 2**

<b>Standard: 2.</b> Identify objects and materials as solid, liquid or gas. Recognize that solids have a definite shape and that liquids and gases take the shape of their container
<b>Essential Guiding Question:</b> Why does water look and act so different at different times?
<b>Focus Questions:</b> What is the shape of a gas? What is the shape of a liquid? What makes water change?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
Students will understand that ice, steam, and water are the same thing in different forms and changes in form can be observed everyday	Discussion  Observation of Water in Different Forms	Teacher Observation	Water  Containers  Ice	March – mid - May

**Physical Science – Grade3  
Standard 3**

<b>Standard: 3.</b> Describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round and round, fast and slow
<b>Essential Guiding Question:</b> What are the different ways things can move?
<b>Focus Questions:</b> How can movement be described?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
Students will be able to describe movement	Discussion Role Playing	Teacher Observation		March – mid - May

**Physical Science – Grade3  
Standard 9**

<b>Standard: 9.</b> Recognize that magnets have poles that repel and attract each other
<b>Essential Guiding Question:</b> What happens when different ends of magnets are put together?
<b>Focus Questions:</b> Can you explain attraction and repulsion?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
Students will experience attraction and repulsion of magnetic poles enough times to internalize the idea that both attraction and repulsion are possible with magnets	Discussion Experimentation Journal Entries	Journal Entries  Teacher Observation	Magnets	March – mid - May

**Physical Science – Grade3  
Standard 10**

<b>Standard: 10.</b> Identify and classify objects and materials that a magnet will attract and objects and materials that a magnet will not attract
<b>Essential Guiding Question:</b> What kind of objects stick to magnets and what kind don't?
<b>Focus Questions:</b> Does anything except metal stick to magnets? Do all metals stick to magnets?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
Students will be able to experiment enough with magnets to make accurate predictions about what objects are magnetic	Experiment/Hands On with Magnets and Objects  Discussion  Journal Entries	Journal Entries  Teacher Observation	Magnets  Assorted Objects	March – mid - May

**Physical Science Grade3  
Standard 11**

<b>Standard: 11.</b> Recognize that sound is produced by vibrating objects and requires a medium through which to travel. Relate the rate of vibration to the pitch of the sound
<b>Essential Guiding Question:</b> What makes sound?
<b>Focus Questions:</b> Can sound travel through liquid and solid or only air? Why are some sounds high and some low?

<b>Learning Expectations and Course Specific Goals</b>	<b>Instructional Strategies</b>	<b>Assessment Techniques</b>	<b>Materials, Supplies and Resources</b>	<b>Pacing Guide</b>
<p>Students will understand that sound is produced by vibration and that it travels through liquid, solid, or gas</p> <p>Students will be able to demonstrate fast vibrations which are high, and slow vibrations which are low</p>	<p>Discussion</p> <p>Video</p> <p>Experimentation with Musical Instruments and Sound-Producing Objects</p>	<p>Journal Entry</p> <p>Teacher Observation</p>	<p>Various Instruments and Sound-Producing Object</p>	<p>March – mid - May</p>