

## Science - Grade 7 - 10 Weeks

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NYS Performance Indicators	Objectives	Text Resources	Resources (Suggested Activities)	Cross-Curriculum Connections	Assessment Items
	<b>General Skills: To be implemented throughout the year where appropriate.</b>				
	1. Follow safety procedures in the classroom and laboratory.	Life's Structure & Function pp. 15, 195-197			
	2. Safely and accurately use the following measurement tools: metric ruler, balance, stopwatch, graduated cylinder and thermometer.	Life's Structure & Function pp. 191-193		<i>Math</i> Life's Structure & Function pp. 212-214	4, 7
	3. Use appropriate units for measured or calculated values.	Life's Structure & Function p. 14		<i>Math</i> Life's Structure & Function pp. 215-216	

4. Recognize and analyze patterns and trends.	Life's Structure & Function pp. 193-194		<i>Math</i> Life's Structure & Function pp. 218-219	72 a b c, 73, 74, 75
5. Classify objects according to an established scheme and a student-generated scheme.	Life's Structure & Function pp. 24-29			
6. Develop and use a dichotomous key.	Life's Structure & Function pp. 27-29	Life's Structure & Function p. 29 lab Classifying seeds		
7. Sequence events.	Life's Structure & Function pp. 187-189			
8. Identify cause-and-effect relationships.	Life's Structure & Function p. 194			
<i>SCIENTIFIC INQUIRY SKILLS</i>				
<b>Teach scientific method referring to the Scientific Inquiry Skills Matrix.</b>				

		<b>Essential Question/Focus for:</b>			
		<b>1.1a-1.1b</b>			
		<b>1. Explain how scientists contributed to the cell theory and what it states.</b>			
<b>MST4.I.</b>	Students compare and contrast the parts of plants, animals, and one-celled organisms.	1.1a Living things are composed of cells. Cells provide structure and carry on major functions to sustain life. Cells are usually microscopic in size.	Life's Structure & Function pp. 16-20, 40-49, 53	<a href="#">Cell Webquest</a>	16, 61 a b c
<b>LE1A</b>					
<b>MST4.I.</b>	Students compare and contrast the parts of plants, animals, and one-celled organisms.	1.1b The way in which cells function is similiar in all living things. Cells grow and divide, producing more cells. Cells take in nutrients, which they use to provide energy for the work that cells do and to make the materials that a cell or an organism needs.	Life's Structure & Function p. 53	<a href="#">The Edible Cell</a>	16
<b>LE1A</b>					

	<p><b>Essential Questions/Focus for:</b></p> <p><b>LE Skill 1 &amp; 2</b></p> <p><b>1. Distinguish between the various parts of a compound microscope.</b></p> <p><b>2. Calculate total magnification for the objective lenses.</b></p>		<p><a href="#">Microscope Lab</a></p>		
	<p><b>LE Skill 1</b></p> <p>Manipulate a compound microscope to view microscopic objects</p>	<p>Life's Structure &amp; Function pp. 222, 50-52</p>	<p><a href="#">Virtual Microscope</a></p>	<p><i>Social Studies</i></p> <p>Life's Structure &amp; Function pp. 50-51</p>	<p>1, 8</p>
	<p><b>LE Skill 2</b></p> <p>Determine the size of a microscopic object, using a compound microscope.</p>	<p>Life's Structure &amp; Function p. 52</p>	<p><a href="#">Microscope Lab</a></p>	<p><i>Math</i></p> <p>Life's Structure &amp; Function pp. 63, 46</p>	
	<p><b>Essential Questions/Focus for: 1.1c-1.1e, 1.1g</b></p> <p><b>1. Compare and contrast prokaryotic and eukaryotic cells.</b></p> <p><b>2. Compare and contrast plant and animal cells.</b></p>	<p>Life's Structure &amp; Function pp. 40-47</p>	<p><a href="#">Animal Cell</a></p> <p><a href="#">Smartboard Activity</a></p>		

<p>Students compare and contrast the parts of plants, animals, and one-celled organisms.</p> <p><b>MST4.I.</b> <b>LE1A</b></p>	<p>1.1c Most cells have cell membranes, genetic material, and cytoplasm. Some cells have a cell wall and/or chloroplasts. Many cells have a nucleus.</p>	<p>Life's Structure &amp; Function pp. 40-47</p>	<p><a href="#">Interactive Cell</a></p>		<p>13, 15, 18, 21, 62 a b c</p>
	<p>1.1d Some organisms are single cells; others, including humans, are multicellular.</p>	<p>Life's Structure &amp; Function p. 47</p>	<p><a href="#">Cell Structure Quiz</a></p>		<p>12, 14</p>
	<p>1.1e Cells are organized for more effective functioning in multicellular organisms. Levels of organization for structure and function of a multicellular organism include cells, tissues, organs, and organ systems.</p>	<p>Life's Structure &amp; Function p. 47</p>	<p><a href="#">Cell Jeopardy</a></p>		<p>9</p>
	<p>1.1g Multicellular animals often have similar organs and specialized systems for carrying out major life activities.</p>	<p>Life's Structure &amp; Function p. 47</p>			<p>20, 63</p>
	<p><b>LE Skill 3</b> Prepare a wet mount slide.</p>	<p>Life's Structure &amp; Function p. 22</p>	<p><a href="#">Letter e lab</a></p>		<p>3</p>

		<b>LE Skill 4</b> Use appropriate staining technique.		<a href="#">Prepared Slides</a>	
		<b>Essential Questions/Focus for:</b> <b>1.1f and 4.3e</b> <b>1. Describe the structure and function of the parts of a plant, flower and seed.</b>		<a href="#">Millionaire Plant Part Game</a>	
<b>MST4.I.</b> <b>LE1A</b>	Students compare and contrast the parts of plants, animals, and one-celled organisms.	1.1f Many plants have roots, stems, leaves, and reproductive structures. These organized groups of tissues are responsible for a plant's life activities.	Bacteria to Plants p. 107	<a href="#">Chromatography Lab</a>	22, 23, 64, 65
<b>MST4.I.</b> <b>LE4C</b>	Students observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants).	4.3e Patterns of development vary among plants. In seed-bearing plants, seeds contain stored food for early development. Their later development into adulthood is characterized by varying patterns of growth from species to species.	Bacteria to Plants pp. 103-115	<a href="#">Great Plant Escape</a>	24, 25, 26, 27, 28, 29

*Please  
see  
individual  
matrix for  
"Science  
-  
Grade 7  
-  
Standard  
1,  
Analysis,  
Inquiry  
and  
Design -  
Scientific  
Inquiry  
Skills  
Matrix"*

<b>Cell</b>	<b>Microscope</b>	<b>Plant</b>	<b>Objectives</b>

Last updated: 1/26/2011

Cell	Arm	<b><u>Seed</u></b>	<b><u>Cell</u></b>
Cell Division	Base	Embryo	1. Explain cell theory.
Cellular Level	Body Tube	Seed coat	2. Identify and describe function of cell structures.
Cell Theory	Coarse Adjustment	Seed-bearing Plants	3. Compare and contrast a plant, animal, and a single celled organism.
Cell Membrane	Diaphragm	Stored nutrients	
Cell Wall	Eyepiece	<b><u>Flower</u></b>	<b><u>Plant</u></b>
Chlorophyll	Fine Adjustment	Anther	4. Identify plant structures and describe their function.
Chloroplast	Illuminator	Filament	
Cytoplasm	Magnification	Flower	5. Describe the functions of the parts of a seed.
Endoplasmic Reticulum	Microscope	Ovary	6. Describe the functions of the parts of a flower.
Homeostasis	Nose Piece	Ovule	
Mitochondria	Objective	Petal	<b><u>Microscope</u></b>
Multi-cellular Organism	Stage	Pistil	7. Label and describe the parts of a microscope.
Nuclear membrane	Stage Clips	Plant	8. Determine the size of a microscopic object using the microscope.
Nucleolus		Roots	
Nucleus		Stems	
Organ		Transpiration	
Organelle		Pollen	
Organ System			



Organism

Ribosome

Tissue

Uni-cellular Organism

Vacuole

Reproductive Structures

Sepal

Stamen

Stigma

Style