

## Sequences of Seventh Grade Science 2012-2013

**\*Results must be reported to Principal**

GLE	Checking for Understanding	State Performance Indicators	Resource / Required Lab	Projected Dates
<b>Imbedded Standards</b>				
<b>GLE 0707.Inq.1</b> Design and conduct open-ended scientific investigations.	√ <b>707.Inq.1</b> Design and conduct an open-ended scientific investigation to answer a question that includes a control and appropriate variables.	<b>SPI 0707.Inq.1</b> Design a simple experimental procedure with an identified control and appropriate variables. <b>Bell Ringer-Mastering the TCAP (W/B)p.7</b>	Glencoe, Chapter 1 - Glencoe Virtual Lab DVD <b>Video Resources:</b> <a href="http://www.BrainPop.com">www.BrainPop.com</a> - <a href="#">Measuring Matter</a> - <a href="#">Scientific Method</a>	<b>Scientific Method – Weeks 1, 2</b>
<b>GLE 0707.Inq.2</b> Use appropriate tools and techniques to gather, organize, analyze, and interpret data.	√ <b>707.Inq.2</b> Identify tools and techniques needed to gather, organize, analyze, and interpret data collected from a moderately complex scientific investigation.	<b>SPI 0707.Inq.2</b> Select tools and procedures needed to conduct a moderately complex experiment. <b>Bell Ringer-Mastering the TCAP (W/B)p.8</b>	<b>Activity Resources:</b> - <a href="#">Metric Olympics</a> (science Spot) - Step Test (Matt B.) - M & M's Lab (Krystle S) - Gum Mass (Andy Sliger) - Cubes with Words (Jessica C.)  <b>PowerPoint Resources:</b> - <a href="#">Metric Mania (Length)</a> with <a href="#">Worksheet</a> - <a href="#">Metric Mania (Mass)</a> with <a href="#">Worksheet</a> - <a href="#">Metric Mania (Volume)</a> with <a href="#">Worksheet</a>	<b>Weeks 1,2</b>  <b>*Common Assessment: Inq. 1 and Inq. 2</b>
<b>GLE 0707.Inq.3</b> Synthesize information to determine cause and effect relationships between evidence and explanations.	√ <b>707.Inq.3</b> Use evidence from a dataset to determine cause and effect relationships that explain a phenomenon.	<b>SPI 0707.Inq.3</b> Interpret and translate data in a table, graph, or diagram. <b>Bell Ringer-Mastering the TCAP (W/B)p.9</b>		<b>Weeks 3-4</b>

<p><b>GLE 0707.Inq.4</b> Recognize possible sources of bias and error, alternative explanations, and questions for further exploration.</p>	<p>√ <b>707.Inq.4</b> Review an experimental design to determine possible sources of bias or error, state alternative explanations, and identify questions.</p>	<p><b>SPI 0707.Inq.4</b> Draw a conclusion that establishes a cause and effect relationship supported by evidence. <b>Bell Ringer-Mastering the TCAP (W/B)p.10</b></p>		<p><b>Weeks 3-4</b></p>
<p><b>GLE 0707.Inq.5</b> Communicate scientific understanding using descriptions, explanations, and models.</p>	<p>√ <b>0707.T/E.5</b> Develop an adaptive design and test its effectiveness.</p>	<p><b>SPI 0707.Inq.5</b> Identify a faulty interpretation of data that is due to bias or experimental error. <b>Bell Ringer-Mastering the TCAP (W/B)p.11</b></p>	<p>Chapter 1</p>	<p><b>Weeks 3-4</b> <b>*Common Assessment: Inq. 3, 4, 5</b></p>
<p><b>Standard 1 Cells</b></p>				
<p><b>GLE 0707.1.2</b> Summarize how the different levels of organization are integrated within living systems.</p>	<p>√ <b>707.1.6</b> Describe the function of different organ systems √ <b>707.1.5</b> Construct a poster that illustrates the hierarchy among cells, tissues, organs, organ systems, and organisms.</p>	<p><b>SPI 0707.1.2</b> Interpret a chart to explain the integrated relationships that exist among cells, tissues, organs, and organ systems. <b>Bell Ringer-Mastering the TCAP (W/B)p.17</b></p>	<p><b>TN State Vocabulary:</b> Organelles, ribosome, mitochondria, chloroplast, vacuole, lysosome</p>	<p><b>Weeks 5-6</b> <b>*Common Assessment: 7.1.2</b></p>
<p><b>GLE 0707.1.1</b> Make observations and describe the structure and function of organelles found in plant and animal cells.</p>	<p>√ <b>0707.1.1</b> Examine and describe plant and animal cells using compound microscopes √ <b>0707.1.2</b> Identify the function of the major plant and animal cellular organelles. √ <b>0707.1.3</b> Make a Venn diagram to compare the structures and functions of an animal cell with a</p>	<p><b>SPI 0707.1.1</b> Identify and describe the function of the major plant and animal cell organelles. <b>Bell Ringer-Mastering the TCAP (W/B)p.16</b></p>	<p>Chapter 2 -Section 1 <a href="http://www.CellsAlive.com">www.CellsAlive.com</a> <a href="#">Cells PPT</a> – PowerPoint</p> <p>Discovery Education (United Streaming) - Understanding Cells - Cells: Basic unit of Life - Living Cell</p> <p><a href="#">Cell Organelle Memory Cards</a></p>	<p><b>Week 7</b></p>

	city or school. √ <b>707.1.4</b> Build a 3-D model of a cell.			
<b>GLE 0707.1.3</b> Describe the function of different organ systems and how collectively they enable complex multicellular organisms to survive		<b>SPI 0707.1.3</b> Explain the basic functions of a major organ system. <b>Bell Ringer-Mastering the TCAP (W/B)p.18</b>		<b>Week 8</b>  <b>*Common Assessment: 7.1.1, 7.1.3</b>
<b>GLE 0707.1.5</b> Observe and explain how materials move through simple diffusion.	√ <b>707.1.9</b> Model the movement of chromosomes during plant cell division. √ <b>707.1.10</b> Design a demonstration that illustrates how materials move across a semi-permeable membrane by simple diffusion	<b>SPI 0707.1.5</b> Explain how materials move through simple diffusion. <b>Bell Ringer-Mastering the TCAP (W/B)p.20</b>	Chapter 3- Pg. 80 Section 2  Raisin Lab(Form a hypothesis, tape a raisin on the outside of a medicine cup place, place a raisin in 30ml of water and record your observations of the water and the raisin...revisit the next day )	<b>Weeks 9-10</b>  <b>*Common Assessment: 7.1.5</b>

## Benchmark #1 (After 1<sup>st</sup> Nine Weeks)

### Standard 2 Interdependence

Weeks 11, 12

<b>GLE 0707.3.1</b> Distinguish between the basic features of photosynthesis and respiration.	√ <b>0707.3.1</b> Associate the fundamental processes of photosynthesis and respiration with appropriate cell structures.	<b>SPI 0707.3.1</b> Compare the chemical compounds that make up the reactants and products of photosynthesis and respiration. <b>Bell Ringer-Mastering the TCAP (W/B)p.21</b>	Chapter 3- Pg. 87 Section 3 Flash card groups-formula on front, words on back. Draw page 91 include different plant and animal species in student drawing. <a href="#">Science 360 Photosynthesis</a>	<b>Week 11</b>
<b>GLE 0707.3.2</b> Investigate the exchange of oxygen and carbon dioxide	√ <b>0707.3.2</b> Examine and identify the chloroplasts in a leaf cell. √ <b>0707.3.3</b> Identify the	<b>SPI 0707.3.2</b> Interpret a diagram to explain how oxygen and carbon dioxide are exchanged	Chapter 3- Pg 87 Section 3	<b>Week 12</b>

between living things and the environment.	materials used by plants to make food. √ <b>0707.3.4</b> Create a chart that compares the reactants and products of photosynthesis and respiration.	between living things and the environment. <b>Bell Ringer-Mastering the TCAP (W/B)p.22</b>		
	√ <b>0707.3.5</b> Model the pathways of water, oxygen, and carbon dioxide through a plant. √ <b>0707.3.7</b> Describe structures that animals use to obtain oxygen.	√ <b>0707.3.6</b> Describe the movement of oxygen and carbon dioxide between living things and the environment.	- Picture page 89	<b>Week 12</b> <b>*Common Assessment: 7.3.1, 7.3.2, 7.3.6</b>
<b>Standard 5 Heredity</b>				
<b>GLE 0707.1.4</b> Illustrate how cell division occurs in sequential stages to maintain the chromosome number of a species.		<b>SPI 0707.1.4</b> Sequence a series of diagrams that depict chromosome movement during plant cell division. ( <b>Only spend 3-4 days introducing, spend more time on the follow up standard, 7.4.1</b> ) <b>Bell Ringer-Mastering the TCAP (W/B)p.19</b>	Chapter 6 Drawing pg 177 <a href="#">-Cell Division Activities and Videos</a> <a href="#">Mitosis Video</a>	<b>Weeks 13-14</b>
<b>GLE 0707.4.1</b> Compare and contrast the fundamental features of sexual and asexual reproduction	√ <b>0707.4.1</b> Classify organisms according to whether they reproduce sexually or asexually.	<b>SPI 0707.4.1</b> Classify methods of reproduction as sexual or asexual. <b>Bell Ringer-Mastering the TCAP (W/B)p.23</b>	Chapter 7 <b>TN State Vocabulary:</b> sexual reproduction, asexual reproduction,	<b>Weeks 13-14</b> <b>*Common Assessment: 7.1.4, 7.4.1</b>

<b>GLE 0707.4.2</b> Demonstrate an understanding of sexual reproduction in flowering plants.	√ <b>0707.4.2</b> Label and explain the function of the reproductive parts of a flower	<b>SPI 0707.4.2</b> Match flower parts with their reproductive functions. <b>Bell Ringer-Mastering the TCAP (W/B)p.24</b>	Chapter 7  <b>Flower Dissection Lab</b>	<b>Week 15</b>
<b>GLE 0707.4.3</b> Explain the relationship among genes, chromosomes, and inherited traits.	.√ <b>0707.4.3</b> Describe various methods of plant pollination	<b>SPI 0707.4.3</b> Describe the relationship among genes, chromosomes, and inherited traits. <b>Bell Ringer-Mastering the TCAP (W/B)p.25</b>	Chapter 6 <b>AIMS—alien activity</b> SpongeBob worksheets	<b>Weeks 16 - 17</b> <b>*Common Assessment after Week 16 on 7.4.2 and what has been taught of 7.4.3</b>
<b>GLE 0707.4.4</b> Predict the probable appearance of offspring based on the genetic characteristics of the parents.	√ <b>0707.4.4</b> Investigate the relationship among DNA, genes, and chromosomes. √ <b>0707.4.5</b> Explain the differences between dominant and recessive traits.	<b>SPI 0707.4.4</b> Interpret a Punnett square to predict possible genetic combinations passed from parents to offspring during sexual reproduction. <b>Bell Ringer-Mastering the TCAP (W/B)p.26</b>	Chapter 6, 8 <b>Coin toss-</b> <a href="#">Science Spot Genetics Smile Lab</a>  Guinea pig punnett worksheet  <a href="#">Science 360 DNA</a>	<b>Weeks 18-19</b>
<b>Benchmark #2 End of 2<sup>nd</sup> Nine Weeks</b>				
	√ <b>0707.4.6</b> Use a Punnett square to predict the genotypes of offspring resulting from a monohybrid cross.	√ <b>0707.4.7</b> Draw a phenotypically accurate picture of an individual whose traits are modeled by the role of a die.		<b>Weeks 18-19</b> <b>*Common Assessment: 7.4.3, 7.4.4, 7.4.7</b>
<b>Standard 6 The Earth</b>				
<b>GLE 0707.7.1</b> Describe the physical properties of minerals.	√ <b>0707.7.1</b> Organize and explain information about the properties of minerals and their uses.	<b>SPI 0707.7.1</b> Use a table of physical properties to classify minerals. <b>Bell Ringer-Mastering the TCAP (W/B)p.27</b>	Chapter 9 LabManager – 1) Inferring Salt’s Crystal System 2) Mineral Identification 3) Observing Mineral Properties <b>Scratch Tests- (Pg. 500 in text book)</b>	<b>Weeks 20-21</b>

<p><b>GLE 0707.7.2</b> Summarize the basic events that occur during the rock cycle.</p>	<p>√ <b>0707.7.2</b> Label a diagram that depicts the major processes of the rock cycle.</p>	<p><b>SPI 0707.7.2</b> Label a diagram that depicts the three different rock types. <b>Bell Ringer-Mastering the TCAP (W/B)p.28</b> <b>SPI 0707.7.3</b> Identify the major processes that drive the rock cycle. <b>Bell Ringer-Mastering the TCAP (W/B)p.29</b></p>	<p>Chapter 9  Rock Cycle Lab-(gum and pop rocks)</p>	<p><b>Weeks 20-21</b>  <b>*Common Assessment: 7.7.1, 7.7.2</b></p>
<p><b>GLE 0707.7.4</b> Explain how earthquakes, mountain building, volcanoes, and sea floor spreading are associated with movements of the earth's major plates.</p>	<p>√ <b>0707.7.4</b> Recognize that the earth's layers have different thicknesses, states of matter, densities, and chemical makeup. √ <b>0707.7.5</b> Analyze the relationship between plate movements and areas of earthquake activity.</p>	<p><b>SPI 0707.7.4</b> Differentiate among the characteristics of the earth's three layers. <b>Bell Ringer-Mastering the TCAP (W/B)p.30</b> <b>SPI 0707.7.5</b> Recognize that lithospheric plates on the scale of continents and oceans continually move at rates of centimeters per year. <b>Bell Ringer-Mastering the TCAP (W/B)p.31</b></p>	<p>Chapter 10  Earth's Layers Lab- (Pg. 501)</p>	<p><b>Weeks 22-23</b></p>
<p><b>GLE 0707.7.6</b> Evaluate how human activities affect the earth's land, oceans, and atmosphere.</p>	<p>√ <b>0707.7.6</b> Analyze the relationship between plate movements and mountain building. √ <b>0707.7.7</b> Analyze the relationship between</p>	<p><b>SPI 0707.7.6</b> Describe the relationship between plate movements and earthquakes, mountain building, volcanoes,</p>	<p>Chapter 10 Lab--AIMS volcano latitude/latitude Chapter 10 Students create a recycle program and present to class.</p>	<p><b>Weeks 22-23</b>  <b>*Common Assessment:7.7.4, 7.7.6</b></p>

	<p>plate movements, volcanoes, and sea floor spreading.</p> <p>√ <b>0707.7.8</b> Determine the impact of man's use of renewable and nonrenewable resources on future supplies.</p> <p>√ <b>0707.7.9</b> Evaluate how human activities affect the condition of the earth's land, water, and atmosphere.</p>	<p>and sea floor spreading.</p> <p><b>Bell Ringer-Mastering the TCAP (W/B)p.32</b></p> <p><b>SPI 0707.7.7</b> Analyze and evaluate the impact of man's use of earth's land, water, and atmospheric resources.</p> <p><b>Bell Ringer-Mastering the TCAP (W/B)p.33</b></p>		
<b>Standard 11 Motion</b>				
<p><b>GLE 0707.11.1</b> Identify six types of simple machines.</p>	<p>√ <b>0707.11.1</b> Compare the six types of simple machines.</p>	<p><b>SPI 0707.11.1</b> Differentiate between the six simple machines.</p> <p><b>Bell Ringer-Mastering the TCAP (W/B)p.34</b></p>	<p>Chapter 14 – Pg. 437 Section 3</p>	<p><b>Week 24</b></p>
<p><b>GLE 0707.11.2</b> Apply the equation for work in experiments with simple machines to determine the amount of force needed to do work.</p>	<p>√ <b>0707.11.2</b> Compete an investigation to determine how machines reduce the amount of force needed to do work.</p>	<p><b>SPI 0707.11.2</b> Determine the amount of force needed to do work using different simple machines.</p> <p><b>Bell Ringer-Mastering the TCAP (W/B)p.35</b></p>	<p>Chapter 14- Pg. 426 Section 1 BrainPop, Edheads <b>Simple Machine Lab-(Pg. 502)</b></p>	<p><b>Week 25</b></p> <p><b>*Common Assessment: 7.11.1, 7.11.2</b></p>
<p><b>GLE 0707.11.3</b> Distinguish between speed and velocity.</p>	<p>√ <b>0707.11.3</b> Summarize the difference between the speed and velocity based on the distance and amount of time traveled.</p>	<p><b>SPI 0707.11.3</b> Apply proper equations to solve basic problems pertaining to distance, time, speed, and velocity.</p> <p><b>Bell Ringer-Mastering</b></p>	<p>Chapter 14- Pg. 432 Section 2 <b>Lab-Pg 502-watch out below</b> Cross-curriculum—Math! <a href="#">Science 360 Speed and Velocity</a></p>	<p><b>Week 26</b></p>

		<b>the TCAP (W/B)p.36</b>		
<b>GLE 0707.11.4</b> Investigate how Newton's laws of motion explain an object's movement.	√ <b>0707.11.4</b> Recognize how a net force impacts an object's motion.	<b>SPI 0707.11.4</b> Identify and explain how Newton's laws of motion relate to the movement of objects. <b>Bell Ringer-Mastering the TCAP (W/B)p.37</b>	Chapter 14- Pg. 426 Section 1 United Streaming, Brain Pop, Balloon vehicles  <a href="#">science 360 1st Law</a> <a href="#">Science 360 2nd Law</a> <a href="#">Science 360 3rd Law</a>	<b>Week 27</b>  <b>*Common Assessment: 7.11.3, 7.11.4</b>
<b>Benchmark #3 (End of 3<sup>rd</sup> Nine Weeks)</b>				
<b>GLE 0707.11.5</b> Compare and contrast the basic parts of a wave.	√ <b>707.11.5</b> Create a graphic organizer to illustrate and describe the basic parts of a wave.	<b>SPI 0707.11.5</b> Compare and contrast the different parts of a wave. <b>Bell Ringer-Mastering the TCAP (W/B)p.38</b>	Chapter 15 Section 2 Drawing pg 459	<b>Weeks 28-29</b>
<b>GLE 0707.11.6</b> Investigate the types and fundamental properties of waves.	√ <b>707.11.6</b> Compare how transverse and longitudinal waves are produced and transmitted.	<b>SPI 0707.11.6</b> Differentiate between transverse and longitudinal waves in terms of how they are produced and transmitted. <b>Bell Ringer-Mastering the TCAP (W/B)p.39</b>	Chapter 15- Pg. 454 Section 1 Slinky, string vibrator, models of waves <b>TN State Vocabulary:</b> longitudinal wave transverse wave Trough amplitude crest	<b>Weeks 28-29</b>  <b>*Common Assessment: 7.11.5, 7.11.6</b>
<b>Engineering Design</b>				



<p><b>GLE 0707.T/E.1</b> Explore how technology responds to social, political, and economic needs.</p>	<p>√ <b>0707.T/E.1</b> Use appropriate tools to test for strength, hardness, and flexibility of materials.</p>	<p><b>SPI 0707.T/E.1</b> Identify the tools and procedures needed to test the design features of a prototype. <b>Bell Ringer-Mastering the TCAP (W/B)p.12</b></p>		<p><b>Weeks 30-31</b></p>
<p><b>GLE 0707.T/E.2</b> Know that the engineering design process involves an ongoing series of events that incorporate design constraints, model building, testing, evaluating, modifying, and retesting.</p>	<p>√ <b>0707.T/E.2</b> Apply the engineering design process to construct a prototype that meets certain specifications.</p>	<p><b>SPI 0707.T/E.2</b> Evaluate a protocol to determine if the engineering design process was successfully applied. <b>Bell Ringer-Mastering the TCAP (W/B)p.13</b></p>		<p><b>Weeks 30-31</b></p>
<p><b>GLE 0707.T/E.3</b> Compare the intended benefits with the unintended consequences of a new technology.</p>	<p>√ <b>0707.T/E.3</b> Explore how the unintended consequences of new technologies can impact society.</p>	<p><b>SPI 0707.T/E.3</b> Distinguish between the intended benefits and the unintended consequences of a new technology. <b>Bell Ringer-Mastering the TCAP (W/B)p.14</b></p>		<p><b>Weeks 30-31</b> <b>*Common Assessment: Engineering 1,2,3</b></p>

## 7th Grade State Vocabulary

acceleration

dominant trait  
genetic characteristic  
genotype

metamorphic  
mitosis  
monohybrid cross  
osmosis  
phenotype  
recessive trait  
rock cycle  
semi-permeable

simple machines  
synthesize

diffusion

genetic engineering  
igneous  
mechanical advantage  
minerals  
momentum  
organ system  
phenomenon  
Punnett square  
respiration  
sedimentary  
velocity

speed  
tissue

### **TN State Vocabulary:**

Gene, cell chromosome cell division,