

## Grade 8 Science

Diary map is based on the 2015-2016 school year. Information may change year to year. Months are guidelines and items may be done at different times of the year.

Month	Essential Questions	Content	Skills	Assessment	Resources	Technology
Aug- Sept.	<p><b>Scientific Inquiry</b> How can scientific inquiry be used to solve a question?</p> <p><b>Lab Safety</b> How can I be safe in the lab classroom?</p>	<p><b>Scientific Inquiry</b> -Question -Hypothesis -Design -Investigate -Analyze -Interpret -Conclusion -Independent Variable -Dependent Variable -Constant</p> <p><b>Lab Safety</b> -First aid kit -Eye wash and chemical shower -Lab safety rules</p>	<p><b>Scientific Inquiry</b> -Understand steps in inquiry and how they are used to answer a question</p> <p><b>Lab Safety</b> -Model appropriate lab safety rules and procedures</p>	<p><b>Scientific Inquiry</b> -Balloon Rocket Lab -Test (teacher created)</p> <p><b>Lab Safety</b> -Behavior within a lab -Lab safety posters -Test (teacher created)</p>	<p><b>Scientific Inquiry</b> -Materials (teacher created)</p>	<p><b>Scientific Inquiry</b> -Computer -Elmo -Projector -SMART Board -PowerPoint</p> <p><b>Lab Safety</b> -Computer -Elmo -Projector -SMART Board -Lab Safety Rules PowerPoint from Teachers Pay Teachers</p>
Oct. – Nov.	<p><b>Cells</b> What is the difference between plant and animal cells?</p> <p>How were cells formed?</p> <p>How do various cell processes work?</p>	<p><b>Cells</b> -Organelles -Mitochondria -ER -Golgi Body -Vacuole -Cell Wall -Cytoplasm -Cell Membrane -Chloroplasts -Mitochondria -Ribosomes -Nucleus -Lysosomes -Bacterial Cell -Flagella -Origin of Life</p>	<p><b>Cells</b> -Understand the difference between the needs of living things and the components of living things -Model the organelles in both plant and animal cells as it relates to a real city -Demonstrate how life began on Earth -Demonstrate understanding of various cell processes</p>	<p><b>Cells</b> -Test (teacher created) -Cheek and onion cell lab -Growing bacteria lab -The origin of life stories -Cell Cities -Photosynthesis lab -Fermentation lab -Cellular Respiration lab</p>	<p><b>Cells</b> -Prentice Hall <i>Life Science</i> (2002) -Glencoe <i>Science Life Science</i> (2002) -Glencoe <i>Integrated Life Science</i> (2012) -Materials (teacher created) -Internet Resources</p>	<p><b>Cells</b> -Computer -Elmo -Projector -SMART Board -PowerPoint -iPad -iCell app</p>

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		-Photosynthesis -Respiration -Fermentation				
Dec. – Feb.	<b>Genetics/Heredit</b> How are traits passed from parent to offspring?	<b>Genetics/Heredit</b> -Homozygous -Heterozygous -Dominant -Recessive -Phenotype -Genotype -Meiosis -Mitosis	<b>Genetics/Heredit</b> -Determine traits and offspring by using Punnett squares -Understand and explain the differences between meiosis and mitosis -Understand the components of DNA and how DNA replicates -Display understanding of mutations	<b>Genetics/Heredit</b> -Quiz (teacher created) -Worksheets (teacher created) -Project (teacher created)	<b>Genetics/Heredit</b> -Prentice Hall <i>Life Science</i> (2002) -Glencoe Science <i>Life Science</i> (2002) -Materials (teacher created) -Delta Science Modules: <i>Genes and Proteins</i>	<b>Genetics/Heredit</b> -Computer -Elmo -Projector -SMART Board -PowerPoint -iPad
March	<b>Systems, Muscular System, Nervous System</b> How do the individual components within your body work together?	<b>Systems, Muscular System, Nervous System</b> -Tissue -Joint -Organ -Organ Systems -Voluntary Muscle -Involuntary Muscle -Sprains -Fracture -Cramps -Pulls -Digestion	<b>Systems, Muscular System, Nervous System</b> -Demonstrate understanding of how individual components work towards a goal within the body	<b>Systems, Muscular System, Nervous System</b> -My Plate food log -Human body digestion -Overwork muscle lab -Bones lab	<b>Systems, Muscular System, Nervous System</b> -Prentice Hall <i>Life Science</i> (2002) -Glencoe Science <i>Life Science</i> (2002) -Materials (teacher created)	<b>Systems, Muscular System, Nervous System</b> -Computer -Elmo -Projector -SMART Board -PowerPoint -iPad
April	<b>Circulatory System, Respiratory System, Digestive System</b> How do the individual components within your body work together?	<b>Circulatory System, Respiratory System, Digestive System</b> -Valve -Aorta -Vein	<b>Circulatory System, Respiratory System, Digestive System</b> -Demonstrate the flow of blood into and out of the heart	<b>Circulatory System, Respiratory System, Digestive System</b> -Walk through the heart QR code -Pig lung	<b>Circulatory System, Respiratory System, Digestive System</b> -Prentice Hall <i>Life Science</i> (2002) -Glencoe Science <i>Life</i>	<b>Circulatory System, Respiratory System, Digestive System</b> -Computer -Elmo -Projector

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		<ul style="list-style-type: none"> <li>-Right atrium</li> <li>-Left atrium</li> <li>-Tricuspid Valve</li> <li>-Artery</li> <li>-Left ventricle</li> <li>-Right ventricle</li> <li>-Mitral valve</li> <li>-Carbon dioxide</li> <li>-Oxygen</li> <li>-Lungs</li> <li>-Heart</li> <li>-Pharynx</li> <li>-Trachea</li> <li>-Nose</li> <li>-Epiglottis</li> <li>-Larynx</li> <li>-Bronchus</li> <li>-Alveoli</li> <li>-Vital Capacity</li> <li>-Lung Capacity</li> <li>-Residual Volume</li> <li>-Mouth</li> <li>-Esophagus</li> <li>-Liver</li> <li>-Gallbladder</li> <li>-Large Intestine</li> <li>-Pancreas</li> <li>-Stomach</li> <li>-Mechanical Digestion</li> <li>-Chemical Digestion</li> </ul>	<ul style="list-style-type: none"> <li>-Demonstrate how oxygen flows into and out of the body</li> <li>-Demonstrate how each organ is the digestive system has a particular job in order to help break down food for nutrients</li> </ul>	<ul style="list-style-type: none"> <li>-Lunch capacity lab</li> <li>-Stomach model lab</li> <li>-Digestion stories</li> </ul>	<ul style="list-style-type: none"> <li><i>Science</i> (2002)</li> <li>-Materials (teacher created)</li> </ul>	<ul style="list-style-type: none"> <li>-SMART Board</li> <li>-PowerPoint</li> <li>-iPad</li> </ul>
May	<p><b>Reproduction</b> What happens when sperm and egg meet?</p> <p>What conditions must be in place for a woman to get pregnant?</p>	<p><b>Reproduction</b></p> <ul style="list-style-type: none"> <li>-Sperm</li> <li>-Egg</li> <li>-Oviduct</li> <li>-Ovaries</li> <li>-Urethra</li> <li>-Sperm Duct</li> </ul>	<p><b>Reproduction</b></p> <ul style="list-style-type: none"> <li>-Determine what conditions needs to be in place for a female to get pregnant</li> <li>-Understand a woman’s menstrual cycle</li> </ul>	<p><b>Reproduction</b></p> <ul style="list-style-type: none"> <li>-Stages of pregnancy presentation</li> <li>-Quiz (teacher created)</li> </ul>	<p><b>Reproduction</b></p> <ul style="list-style-type: none"> <li>-Prentice Hall <i>Life Science</i> (2002)</li> <li>-Glencoe Science <i>Life Science</i> (2002)</li> <li>-Materials (teacher created)</li> </ul>	<p><b>Reproduction</b></p> <ul style="list-style-type: none"> <li>-Computer</li> <li>-Elmo</li> <li>-Projector</li> <li>-SMART Board</li> <li>-PowerPoint</li> <li>-iPad</li> </ul>

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	<p>What is the pregnancy process?</p> <p><b>Dissection</b> How is the frog anatomy similar to that of a human?</p>	<p><b>Dissection</b> -Dorsal Side -Ventral Side -Various internal organs</p>	<p>-Understand the growth and maturity of a baby within the womb</p> <p><b>Dissection</b> -Properly use lab tools to explore a frog's internal organs -Identify components of a frog's internal organs</p>	<p><b>Dissection</b> -Lab sheet (teacher created)</p>	<p>-Delta Science Modules: <i>You and Your Body</i></p> <p><b>Dissection</b> -Lab sheet (teacher created)</p>	