

# WET Correlations: SCIENCE GRADE 8

<b>Grade 8 : Embedded Inquiry</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project WET Correlations</b>
<p><b>GLE 0807.Inq.1</b> Design and conduct open-ended scientific investigations.</p> <p><b>GLE 0807.Inq.2</b> Use appropriate tools and techniques to gather, organize, analyze, and interpret data.</p> <p><b>GLE 0807.Inq.3</b> Synthesize information to determine cause and effect relationships between evidence and explanations.</p> <p><b>GLE 0807.Inq.4</b> Recognize possible sources of bias and error, alternative explanations, and questions for further exploration.</p> <p><b>GLE 0807.Inq.5</b> Communicate scientific understanding using descriptions, explanations, and models.</p>	<p><b>0807.Inq.1</b> Design and conduct an open-ended scientific investigation to answer a question that includes a control and appropriate variables.</p> <p><b>0807.Inq.2</b> Identify tools and techniques needed to gather, organize, analyze, and interpret data collected from a moderately complex scientific investigation.</p> <p><b>0807.Inq.3</b> Use evidence from a dataset to determine cause and effect relationships that explain a phenomenon.</p> <p><b>0807.Inq.4</b> Review an experimental design to determine possible sources of bias or error, state alternative explanations, and identify questions for further investigation.</p> <p><b>0807.Inq.5</b> Design a method to explain the results of an investigation using descriptions, explanations, or models.</p>	<p><b>Adventures in Density (25)</b>  <b>Hangin’ Together (35)</b>  <b>H<sub>2</sub>Olympics (30)</b>  <b>Is there Water on Zork? (43)</b>  <b>Life in the Fast Lane (79)</b>  <b>Sparkling Water (348)</b>  <b>What’s the Solution? (54)</b>  <b>Where Are the Frogs? (279)</b></p>

## Grade 8 : Embedded Technology & Engineering

Learning Expectations	Checks for Understanding	Project WET Correlations
<p><b>GLE 0807.T/E.1</b> Explore how technology responds to social, political, and economic needs.</p> <p><b>GLE 0807.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>GLE 0807.T/E.3</b> Compare the intended benefits with the unintended consequences of a new technology.</p> <p><b>GLE 0807.T/E.4</b> Describe and explain adaptive and assistive bioengineered products.</p>	<p><b>0807.T/E.1</b> Use appropriate tools to test for strength, hardness, and flexibility of materials.</p> <p><b>0807.T/E.2</b> Apply the engineering design process to construct a prototype that meets certain specifications.</p> <p><b>0807.T/E.3</b> Explore how the unintended consequences of new technologies can impact society.</p> <p><b>0807.T/E.4</b> Research bioengineering technologies that advance health and contribute to improvements in our daily lives.</p> <p><b>0807.T/E.5</b> Develop an adaptive design and test its effectiveness.</p>	<p><b>Water Crossings (421)</b></p>

## Grade 8: Standards 1- 4 – Omitted

## Grade 8 : Standard 5 - Biodiversity and Change

Learning Expectations	Checks for Understanding	Project WET Correlations
<p><b>GLE 0807.5.1</b> Identify various criteria used to classify organisms into groups.</p> <p><b>GLE 0807.5.2</b> Use a simple classification key to identify a specific organism.</p>	<p><b>0807.5.1</b> Select characteristics of plants and animals that serve as the basis for developing a classification key.</p> <p><b>0807.5.2</b> Create and apply a simple classification key to identify an organism.</p>	

<b>GLE 0807.5.3</b> Analyze how structural, behavioral, and physiological adaptations within a population enable it to survive in a given environment.	<b>0807.5.3</b> Compare and contrast the ability of an organism to survive under different environmental conditions.	<b>Life in the Fast Lane (79)</b> <b>Macroinvertebrate Mayhem (322)</b> <b>Thirsty Plants (116)</b> <b>Water Address (122)</b>
<b>GLE 0807.5.4</b> Explain why variation within a population can enhance the chances for group survival.	<b>0807.5.4</b> Collect and analyze data relating to variation within a population of organisms.	
<b>GLE 0807.5.5</b> Describe the importance of maintaining the earth's biodiversity.	<b>0807.5.5</b> Prepare a poster that illustrates the major factors responsible for reducing the amount of global biodiversity.  <b>0807.5.6</b> Prepare graphs that demonstrate how the amount of biodiversity has changed in a particular continent or biome.	
<b>GLE 0807.5.6</b> Investigate fossils in sedimentary rock layers to gather evidence of changing life forms.	<b>0807.5.7</b> Create a timeline that illustrates the relative ages of fossils in sedimentary rock layers.	<b>The Great Stony Book (150)</b> <b>Old Water (171)</b>

## Grade 8: Standards 6-8 – Omitted

<b>Grade 8 : Standard 9 - Matter</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project WET Correlations</b>
<b>GLE 0807.9.1</b> Understand that all matter is made up of atoms.	<b>0807.9.1</b> Identify atoms as the fundamental particles that make up matter.	
<b>GLE 0807.9.2</b> Explain that matter has properties that are determined by the structure and arrangement of its atoms.	<b>0807.9.2</b> Illustrate the particle arrangement and type of motion associated with different states of matter.  <b>0807.9.3</b> Measure or calculate the mass, volume, and temperature of a given substance.  <b>0807.9.4</b> Calculate the density of various objects.	<b>Adventures in Density (25)</b> <b>Hangin' Together (35)</b> <b>H<sub>2</sub>Olympics (30)</b> <b>Imagine! (157)</b> <b>Is there Water on Zork? (43)</b> <b>Molecules in Motion (47)</b> <b>Poetic Precipitation (182)</b> <b>Sparkling Water (348)</b> <b>Water Crossings (421)</b> <b>What's the Solution? (54)</b>

<p><b>GLE 0807.9.3</b> Interpret data from an investigation to differentiate between physical and chemical changes.</p> <p><b>GLE 0807.9.4</b> Distinguish among elements, compounds, and mixtures.</p> <p><b>GLE 0807.9.5</b> Apply the chemical properties of the atmosphere to illustrate a mixture of gases.</p> <p><b>GLE 0807.9.6</b> Use the periodic table to determine the characteristics of an element.</p> <p><b>GLE 0807.9.7</b> Explain the Law of Conservation of Mass.</p> <p><b>GLE 0807.9.8</b> Interpret the events represented by a chemical equation.</p>	<p><b>0807.9.6</b> Differentiate between physical and chemical changes.</p> <p><b>0807.9.5</b> Distinguish between elements and compounds by their symbols and formulas.</p> <p><b>0807.9.7</b> Describe how the characteristics of a compound are different than the characteristics of their component parts.</p> <p><b>0807.9.8</b> Determine the types of interactions between substances that result in a chemical change.</p> <p><b>0807.9.9</b> Explain how the chemical makeup of the atmosphere illustrates a mixture of gases.</p> <p><b>0807.9.10</b> Identify the atomic number, atomic mass, number of protons, neutrons, and electrons in an atom of an element using the periodic table.</p> <p><b>0807.9.11</b> Use investigations of chemical and physical changes to describe the Law of Conservation of Mass.</p> <p><b>0807.9.12</b> Differentiate between the reactants and products of a chemical equation.</p>	
<p><b>GLE 0807.9.9</b> Explain the basic difference between acids and bases.</p>	<p><b>0807.9.13</b> Determine whether a substance is an acid or a base by its reaction to an indicator.</p>	<p><b>Where Are the Frogs? (279)</b></p>

## Grade 8: Standards 10-11 – Omitted

## Grade 8 : Standard 12 - Forces in Nature

Learning Expectations	Checks for Understanding	Project WET Correlations
<p><b>GLE 0807.12.1</b> Investigate the relationship between magnetism and electricity.</p> <p><b>GLE 0807.12.2</b> Design an investigation to change the strength of an electromagnet.</p> <p><b>GLE 0807.12.3</b> Compare and contrast the earth's magnetic field to that of a magnet and an electromagnet.</p> <p><b>GLE 0807.12.4</b> Identify factors that influence the amount of gravitational force between objects.</p> <p><b>GLE 0807.12.5</b> Recognize that gravity is the force that controls the motion of objects in the solar system.</p>	<p><b>0807.12.1</b> Create a diagram to explain the relationship between electricity and magnetism.</p> <p><b>0807.12.2</b> Produce an electromagnet using a bar magnet and a wire coil.</p> <p><b>0807.12.3</b> Experiment with an electromagnet to determine how to vary its strength.</p> <p><b>0807.12.4</b> Create a chart to distinguish among the earth's magnetic field, and fields that surround a magnet and an electromagnet.</p> <p><b>0807.12.5</b> Explain the difference between mass and weight.</p> <p><b>0807.12.6</b> Identify factors that influence the amount of gravitational force between objects.</p> <p><b>0807.12.7</b> Explain how the motion of objects in the solar system is affected by gravity.</p>	