

# **Project WET Correlations to the Eighth Grade Core Curriculum**

## **WHAT'S THE SOLUTION - Pg 54**

Standard I Objective 1 b  
Standard I Objective 2 a  
Standard I Objective 3 a, d

## **HANGIN' TOGETHER – Pg 35**

Standard I Objective 1 c  
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## **H2O OLYMPICS - Pg 30**

Standard I Objective 1 c  
Standard I Objective 4 c

## **THIRSTY PLANTS – Pg 116**

Standard I Objective 1 c  
Standard II Objective 1 a, c  
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## **MOLECULES IN MOTION – Pg 47**

Standard I Objective 2 a

## **ADVENTURES IN DENSITY – Pg 25**

Standard I Objective 2 a  
Standard I Objective 3 a, c, d

## **IMAGINE! – Pg 157**

Standard I Objective 2 a

## **IS THERE WATER ON ZORK? – Pg 43**

Standard I Objective 1 a, b

## **PEOPLE OF THE BOG - Pg 89**

Standard II Objective 1 a

## **IRRIGATION INTERPRETATION- Pg 254**

Standard II Objective 2 c

**WHERE ARE THE FROGS? – Pg 279**

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**WATER ACTIONS - Pg 13**

Standard II Objective 3 a

**GET THE GROUND WATER PICTURE- Pg 136**

Standard III Objective 1 b

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**SUM OF THE PARTS – Pg 267**

Standard II Objective 3 a

**JUST PASSING THROUGH- Pg 167**

Standard III Objective 2 c

**RAINY DAY HIKE - Pg 186**

Standard III Objective 2 c

**A-MAZE-ING WATER - Pg 219**

Standard II Objective 3 a

**A DROP IN THE BUCKET- Pg 238**

Standard II Objective 3 a

**A GRAVE MISTAKE - Pg 311**

Standard II Objective 3 a

**MACROINVERTEBRATE MAYHEM – Pg 322**

Standard II Objective 3 a

**REACHING YOUR LIMITS – Pg 344**

Standard II Objective 3 a

**SPARKLING WATER – Pg 348**

Standard II Objective 3 a

**PASS THE JUG – Pg 392**

Standard II Objective 3 a

**EASY STREET- Pg 382**

Standard II Objective 3 a

**THE GREAT STONY BOOK- Pg 150**

Standard III Objective 2 b, c, e, f

Standard III Objective 3 a

**BRANCHING OUT!** – Pg 129  
Standard III Objective 2 c

**JUST PASSING THROUGH** - Pg 167  
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**ENERGETIC WATER**- Pg 242  
Standard IV Objective 4 a, b

**POETIC PRECIPITATION** - Pg 182  
Standard IV Objective 4 a

<p><b>Standard I:</b> Students will understand the nature of changes in matter.</p>	<p><b>Objective 1:</b> Describe the chemical and physical properties of various substances.</p>	a. Differentiate between chemical and physical properties of various substances.	Is There Water on Zork?- Pg. 43
		b. Classify substances based on their chemical and physical properties.	What's the Solution- Pg. 54 Is There Water on Zork?- Pg. 43
		c. Investigate and report on the chemical and physical properties of a particular substance.	Hangin' Together- Pg. 35 H2O Olympics- Pg. 30 Thirsty Plants- Pg. 116
	<p><b>Objective 2:</b> Observe and evaluate evidence of chemical and physical change.</p>	a. Identify observable evidence of a physical change.	Molecules in Motion- Pg. 47 Adventures in Density- Pg. 25 Hangin' Together- Pg. 35 (indirect) What's the Solution?- Pg. 54 Imagine!- Pg. 157
		b. Identify observable evidence of a chemical change	
		c. Observe and describe chemical reactions involving atmospheric oxygen.	
		d. Investigate the effects of chemical change on physical properties of substances.	
	<p><b>Objective 3:</b> Investigate and measure the effects of increasing or decreasing the amount of energy in a physical or chemical change, and relate the kind of energy added to the motion of the particles.</p>	a. Identify the kinds of energy given off or taken in when a substance undergoes a chemical or physical change.	Adventures In Density- Pg. 25 What's the Solution?- Pg. 54
		b. Relate the amount of energy added or taken away from a substance to the motion of molecules in the substance.	Hangin' Together- Pg. 35
		c. Measure and graph the relationship between the states of water and changes in its temperature.	Adventures in Density- Pg. 25
		d. Cite evidence showing that heat may be given off or taken in during a chemical change.	Adventures in Density- Pg. 25 What's the Solution?- Pg. 54
		e. Plan and conduct an experiment, and report the effect of adding or removing energy on the chemical and physical changes.	
	<p><b>Objective 4:</b> Identify the observable features of chemical reactions.</p>	a. Identify the observable features of chemical reactions.	
		b. Cite examples of common significant chemical reactions in daily life.	
		c. Demonstrate that mass is conserved in a chemical reaction.	H2O Olympics- Pg. 30
		d. Experiment with variables affecting the relative rates of chemical changes.	
e. Research and report on how engineers have applied principles of chemistry to an application encountered in daily life.			

<p><b>Standard II:</b> Students will understand that energy from sunlight is changed to chemical energy in plants, transfers between living organisms, and that changing the environment may alter the amount of energy provided to living organisms.</p>	<p><b>Objective 1:</b> Compare ways that plants and animals obtain and use energy.</p>	<p>a. Recognize the importance of photosynthesis in using light energy as part of the chemical process that builds plant materials.</p>	<p><b>People of the Bog- Pg/ 89</b> <b>Thirsty Plants- Pg. 117</b></p>
		<p>b. Explain how respiration in animals is a process that converts food energy into mechanical and heat energy.</p>	
		<p>c. Trace the path of energy from the sun to mechanical energy in an organism.</p>	<p><b>Thirsty Plants- pg. 117</b></p>
	<p><b>Objective 2:</b> Generalize the dependant relationship between organisms.</p>	<p>a. Categorize the relationships between organisms and provide examples of each.</p>	
		<p>b. Use models to trace the flow of energy in food chains and food webs.</p>	
		<p>c. Formulate and test a hypothesis on the effects of air, temperature, water or light on plants.</p>	<p><b>Irrigation Interpretation- Pg. 254</b></p>
		<p>d. Research multiple way that different scientists have investigated the same ecosystem.</p>	
	<p><b>Objective 3:</b> Analyze human influence on the capacity of an environment to sustain living things.</p>	<p>a. Describe specific examples of how humans have changed the capacity of an environment.</p>	<p><b>Where Are the Frogs? – Pg. 279</b> <b>Water Actions- Pg. 13</b> <b>Sum of the Parts-Pg. 267</b> <b>A-maze-ing Water- Pg. 219</b> <b>A Drop in the Bucket- Pg. 238</b> <b>A Grave Mistake- Pg. 311</b> <b>Macroinvertebrate Mayhem- Pg. 322</b> <b>Reaching Your Limits- Pg. 344</b> <b>Sparkling Water- Pg. 348</b> <b>Pass the Jug- Pg. 392 (indirect)</b> <b>Easy Street- Pg. 382</b></p>
		<p>b. Distinguish between inference and evidence in a newspaper or magazine article relating to the effect of humans on the environment.</p>	
		<p>c. Infer the potential effects of humans on a specific food web.</p>	
		<p>d. Evaluate and present arguments for and against allowing a specific species of plant or animal to become extinct, and relate the argument to the flow of energy in an ecosystem.</p>	

<p><b>Standard III:</b> Students will understand the processes of rock and fossil formation.</p>	<p><b>Objective 1:</b> Compare rocks and minerals and describe how they are related.</p>	a. Recognize that most rocks are composed of minerals.	<p><b>Get the Ground Water Picture- Pg. 137 (indirect)</b></p>
		b. Observe and describe the minerals found in rocks.	
		c. Categorize rock samples as sedimentary, metamorphic or igneous.	
	<p><b>Objective 2:</b> Describe the nature of the changes that rocks undergo over long periods of time.</p>	a. Diagram and explain the rock cycle.	<p><b>The Great Stony Book- Pg. 150</b> <b>Branching Out!- Pg.129</b> <b>The Great Stony Book- Pg. 150</b> <b>Just Passing Through- Pg. 167 (indirect)</b> <b>Rainy Day Hike- Pg. 186</b></p>
		b. Describe the role of energy in the processes that change rock materials over time.	
		c. Use a model to demonstrate how erosion changes the surface of Earth.	
		d. Relate gravity to changes in Earth's surface.	
		e. Identify the role of weathering of rocks in soil formation.	
		f. Describe and model the processes of fossil formation.	
	<p><b>Objective 3:</b> Describe how rock and fossil evidence is used to infer Earth's history.</p>	a. Describe how the deposition of rock materials produces layering of sedimentary rocks over time.	<p><b>Get the Ground Water Picture- Pg. 136</b> <b>The Great Stony Book- Pg. 150</b></p>
		b. Identify the assumptions scientists make to determine relative ages of rock layers.	
		c. Explain why some sedimentary rock layers may not always appear with young rocks on top and older rocks below.	
		d. Propose why more recently deposited rock layers are more likely to contain fossils resembling existing species that older rock layers.	
	<p><b>Objective 4:</b> Compare rapid and gradual changes to Earth's surface.</p>	a. Describe how energy from the Earth's interior causes changes to Earth's surface.	
		b. Describe how earthquakes and volcanoes transfer energy from Earth's interior to the surface.	
c. Model the process of energy buildup and release in earthquakes.			
d. Investigate and report possible reasons why the best engineering or ecological practices are not always followed in making decisions about building roads, dams and other structures.			
e. Model how small changes over time add up to major changes to Earth's surface.			

<b>Standard IV:</b> Students will understand the relationships among energy, force and motion.	<b>Objective 1:</b> Investigate the transfer of energy through various materials.	a. Relate the energy of a wave to wavelength.	
		b. Compare the transfer of energy through various mediums.	
		c. Describe the spread of energy away from an energy-producing source.	
		d. Compare the transfer of heat by conduction, convection, and radiation and provide example of each.	
		e. Demonstrate how white light can be separated into the visible color spectrum.	
	<b>Objective 2:</b> Examine the force exerted on objects by gravity.	a. Distinguish between mass and weight.	
		b. Cite examples of how Earth’s gravitational force on an object depends upon the mass of the object.	
		c. Describe how Earth’s gravitational force on an object depends upon the distance of the object from Earth.	
		d. Design and build structures to support a load.	
		e. Engineer a machine that uses gravity to accomplish a task.	
	<b>Objective 3:</b> Investigate the application of forces that act on objects, and the resulting motion.	a. Calculate the mechanical advantage created by a lever.	
		b. Engineer a device that uses levers or inclined planes to create a mechanical advantage.	
		c. Engineer a device that uses friction to control the motion of an object.	
		d. Design and build a complex machine capable of doing specified task.	
		e. Investigate the principles used to engineer changes in forces and motion.	
	<b>Objective 4:</b> Analyze various forms of energy and how living organisms sense and respond to energy.	a. Analyze the cyclic nature of potential and kinetic energy.	<b>Energetic Water- Pg. 242</b>
		b. Trace the conversion of energy from one form of energy to another.	<b>Poetic Precipitation- Pg. 182 (indirect)</b>
		c. Cite examples of how organisms sense various types of energy.	<b>Thirsty Plants- Pg. 116</b>
		d. Investigate and report the response of various organisms to changes in energy.	<b>Energetic Water- Pg. 242</b>
		e. Investigate and describe how engineers have developed devices to help us sense various types of energy.	

