

# WASHINGTON STATE LASER

Alignment of Washington 6-8  
Science Standards by EALR/Domain for

SEPUP

Water

November 1, 2010

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Application ~ APPE**

**Content Standard** Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising.

**Performance Expectation** • Collaborate with other students to generate creative solutions to a problem, and apply methods for making tradeoffs to choose the best solution.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 52	Aligned as designed	SG pp C-110-111; Student Sheet 52.1; TG pp C-243-245	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Earth Science ~ ES2C**

**Content Standard** In the water cycle, water evaporates from Earth’s surface, rises and cools, condenses to form clouds and falls as rain or snow and collects in bodies of water.

**Performance Expectation** • Describe the water cycle and give local examples of where parts of the water cycle can be seen.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 39	Aligned as designed	SG pp C-47-51; TG pp C-101-117	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Earth Science ~ ES2D**

**Content Standard** Water is a solvent. As it passes through the water cycle, it dissolves minerals and gases and carries them to the oceans.

**Performance Expectation** • Distinguish between bodies of saltwater and fresh water and explain how saltwater became salty.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 39	Aligned as designed	SG pp C-47-51; TG pp C-101-117	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Inquiry ~ INQB**

**Content Standard**

Different kinds of questions suggest different kinds of scientific investigations.

**Performance Expectation**

- Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked.
- Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis.
- Work collaboratively with other students to carry out the investigations.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 30	Aligned as designed	SG pp C-4-6; TG pp C-5-6	
Activity 30	Aligned as designed	SG pp C-4-6; TG pp C-5-6	
Activity 51	Aligned as designed	SG pp C-105-106; TG pp C-230-231	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Inquiry ~ INQC**

**Content Standard**

Collecting, analyzing, and displaying data are essential aspects of all investigations.

- Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.

**Performance Expectation**

- Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words.
- Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 30	Aligned as designed	SG pp C-5-6; TG p C-6	
Activity 32	Aligned as designed	SG pp C-13-14; TG pp C-20-21, 23-25	The unit/lesson contains many opportunities to discuss Scientific Inquiry.
Activity 33	Aligned as designed	SG pp C-15-20; TG pp C-29-37	Teachers need to emphasize "analyze" and "communicate".
Activity 37	Aligned as designed	SG pp C-40-42; TG p C-76; Student Sheet 37.1	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Inquiry ~ INQC**

**Content Standard**

Collecting, analyzing, and displaying data are essential aspects of all investigations.

- Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.

**Performance Expectation**

- Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words.
- Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 40	Aligned as designed	SG p C-55; TG pp C-122-124	
Activity 46	Aligned as designed	SG pp C-83-85; TG pp C-186-189	
Activity 48	Aligned as designed	SG pp C-91-93; TG pp C-204-207	
Activity 51	Aligned as designed	SG p C-107	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Inquiry ~ INQD**

**Content Standard**

For an experiment to be valid, all (controlled) variables must be kept the same whenever possible, except for the manipulated (independent) variable being tested and the responding (dependent) variable being measured and recorded. If a variable cannot be controlled, it must be reported and accounted for.

**Performance Expectation**

• Plan and conduct a controlled experiment to test a hypothesis about a relationship between two variables. Determine which variables should be kept the same (controlled), which (independent) variable should be systematically manipulated, and which responding (dependent) variable is to be measured and recorded. Report any variables not controlled and explain how they might affect results.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 38	Aligned as designed	SG pp C-43-46; TG p TR-123; TG pp C-89-97	Teacher must be intentional about use of the terms "hypothesis" and variables (manipulated, responding, and controlled).
Activity 51	Aligned with modifications (see comments)	SG pp C-106-107	Teacher must be intentional about use of the terms "variable", "manipulated", "responding", & "controlled".

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Inquiry ~ INQE**

**Content Standard** Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.

**Performance Expectation** • Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 36	Aligned as designed	SG p C-38; TG pp C-67-68	
Activity 49	Aligned as designed	SG pp C-94-97; TG pp C-209-213	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Inquiry ~ INQE**

**Content Standard** It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.

- Generate a scientific conclusion from an investigation using inferential logic, and clearly distinguish between results (e.g., evidence) and conclusions (e.g., explanation).
- Describe the differences between an objective summary of the findings and an inference made from the findings.

**Performance Expectation**

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 44	Aligned as designed	SG pp C-73-77; TG pp C-162-167	The unit/lesson contains opportunities for the use of terms "results", "evidence", "explanation", & "conclusion", but it requires the intentional use by teachers. The unit/lesson intentionally refers to Activity 31.
Activity 51	Aligned as designed	SG p C-108	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Inquiry ~ INQG**

**Content Standard**

Scientific reports should enable another investigator to repeat the study to check the results.

**Performance Expectation**

• Prepare a written report of an investigation by clearly describing the question being investigated, what was done, and an objective summary of results. The report should provide evidence to accept or reject the hypothesis, explain the relationship between two or more variables, and identify limitations of the investigation.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 41	Aligned as designed	SG pp C-57-61; TG pp C-139-141, TR-125	
Activity 51	Aligned as designed	SG p C-107	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Inquiry ~ INQH**

**Content Standard**

Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry.

**Performance Expectation**

- Recognize flaws in scientific claims, such as uncontrolled variables, over generalizations from limited data, and experimenter bias.
- Listen actively and respectfully to research reports by other students. Critique their presentations respectfully, using logical argument and evidence.
- Engage in reflection and self-evaluation.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 52	Aligned as designed	SG pp C-109-111; Student Sheet 52.2	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Physical Science ~ PS2A**

**Content Standard** Substances have characteristic intrinsic properties such as density, solubility, boiling point, and melting point, all of which are independent of the amount of the sample.

**Performance Expectation** • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 35	Aligned as designed	SG pp C-31-33; TG pp C-50-56; Student Sheet 35.1	
Activity 46	Aligned with modifications (see comments)	TG pp C-184-185	Teachers need to emphasize "pH" as a characteristic intrinsic property.
Activity 47	Aligned with modifications (see comments)	SG pp C-86-90; TG pp C-191-194	Teachers need to emphasize "pH", "acids" and "bases" as characteristic intrinsic property.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Physical Science ~ PS2B**

**Content Standard**

Mixtures are combinations of substances whose chemical properties are preserved. Compounds are substances that are chemically formed and have different physical and chemical properties from the reacting substances.

**Performance Expectation**

- Separate a mixture using differences in properties (e.g., solubility, size, magnetic attraction) of the substances used to make the mixture.
- Demonstrate that the properties of a compound are different from the properties of the reactants from which it was formed.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 42	Aligned with modifications (see comments)	SG pp C-62, 64-65; TG pp C-146-148; Transparency 42.1	Teacher must be intentional about use of the terms, "mixtures", "compounds", "physical and chemical properties". The teacher needs to be intentional about discussing the standard as applied to this lesson.
Activity 43	Aligned with modifications (see comments)	SG pp C-67-71; TG pp C-154-157	Teacher must be intentional about use of the terms, "mixtures", "compounds", "physical & chemical properties". The Unit/Lesson is an integral part of the learning progression students are asked to demonstrate conceptual understanding of standards in Activities 42 & 43.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Physical Science ~ PS2C**

**Content Standard**

All matter is made of atoms. Matter made of only one type of atom is called an element.

**Performance Expectation**

• Explain that all matter is made of atoms, and give examples of common elements—substances composed of just one kind of atom.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 36	Aligned as designed	SG pp C-34-37; TG p C-63	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Physical Science ~ PS2D**

**Content Standard** Compounds are composed of two or more kinds of atoms, which are bound together in well-defined molecules or arrays.

**Performance Expectation** • Demonstrate with a labeled diagram and explain the relationship among atoms, molecules, elements, and compounds.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 36	Aligned as designed	SG p C-37; TG pp C-63-64	
Activity 50	Aligned with modifications (see comments)	SG pp C-99-103; TG pp C-217-220; Student Sheet 50.2	Teachers need to emphasize the relationship among atoms, molecules, elements and compounds.

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Physical Science ~ PS2E**

**Content Standard**

Solids, liquids, and gases differ in the motion of individual particles. In solids, particles are packed in a nearly rigid structure; in liquids, particles move around one another; and in gases, particles move almost independently.

**Performance Expectation**

• Describe how solids, liquids, and gases behave when put into a container (e.g., a gas fills the entire volume of the container). Relate these properties to the relative movement of the particles in the three states of matter.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 35	Aligned as designed	SG p C-29; TG p C-48	

**Alignment of Washington 6-8 Science Standards with  
SEPUP Water  
Systems ~ SYSB**

**Content Standard** The boundaries of a system can be drawn differently depending on the features of the system being investigated, the size of the system, and the purpose of the investigation.

**Performance Expectation** • Explain how the boundaries of a system can be drawn to fit the purpose of the study (e.g., to study how insect populations change, a system might be a forest, a meadow in the forest, or a single tree).

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Activity 31	Aligned with modifications (see comments)	SG p C-9; TG p C-9; TR 31.1	Teacher must be intentional about use of the terms "system" and "boundaries".