

WASHINGTON STATE LASER

Alignment of Washington 6-8
Science Standards by Lesson Number for

STC/MS

Properties of Matter

November 1, 2010

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 01**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQH	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.	<ul style="list-style-type: none"> • 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. 	SG p 3 "Getting Started" 4	Aligned as designed	
PS2E	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.	<ul style="list-style-type: none"> • 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. 	Reading: What is Matter SG pp 8-9	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 02**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 2.2 SG p 18; Inquiry 2.3 SG p 19 Reflection Questions 1-2 SG p 20	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Reading: Archimedes' Crowning Moment SG pp 22-23	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 03**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPD	The process of technological design begins by defining a problem and identifying criteria for a successful solution, followed by research to better understand the problem and brainstorming to arrive at potential solutions.	<ul style="list-style-type: none"> • Define a problem that can be solved by technological design and identify criteria for success. • Research how others solved similar problems. • Brainstorm different solutions. 	Reading: Why Did the Titanic Float? SG pp 28-29	Aligned with modifications (see comments)	Emphasize questions 1 and 2.
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 3.1 SG p 26	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 04**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 4.1 SG p 33 Reading: Deadly Density SG p 34	Aligned as designed	
ES2A	The atmosphere is a mixture of nitrogen, oxygen, and trace gases that include water vapor. The atmosphere has different properties at different elevations.	<ul style="list-style-type: none"> • Describe the composition and properties of the troposphere and stratosphere. 	Reading: Air heads SG pp 35-37	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 05**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPD	The process of technological design begins by defining a problem and identifying criteria for a successful solution, followed by research to better understand the problem and brainstorming to arrive at potential solutions.	<ul style="list-style-type: none"> • Define a problem that can be solved by technological design and identify criteria for success. • Research how others solved similar problems. • Brainstorm different solutions. 	Reading: The Trans-Alaska Pipeline: Meeting Nature's Challenges SG pp 52-55	Aligned as designed	
APPE	Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising.	<ul style="list-style-type: none"> • Collaborate with other students to generate creative solutions to a problem, and apply methods for making tradeoffs to choose the best solution. 	Reading: The Trans-Alaska Pipeline: Meeting Nature's Challenges SG pp 52-55	Aligned as designed	
APPF	Solutions must be tested to determine whether or not they will solve the problem. Results are used to modify the design, and the best solution must be communicated persuasively.	<ul style="list-style-type: none"> • Test the best solution by building a model or other representation and using it with the intended audience. Redesign as necessary. • Present the recommended design using models or drawings and an engaging presentation. 	Reading: The Trans-Alaska Pipeline: Meeting Nature's Challenges SG pp 52-55	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 05**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPH	People in all cultures have made and continue to make contributions to society through science and technology.	<ul style="list-style-type: none"> Describe scientific or technological contributions to society by people in various cultures. 	Reading: Measuring Temperature by Degrees SG: 44-45	Aligned as designed	
APPH	People in all cultures have made and continue to make contributions to society through science and technology.	<ul style="list-style-type: none"> Describe scientific or technological contributions to society by people in various cultures. 	Reading: Measuring Temperature by Degrees SG: 44-45	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 5.1, 5.2, 5.3 SG pp 40-43 Student Sheet 5 TG pp 61-63; Reading: Just a Load of Hot Air SG pp 46-47	Aligned with modifications (see comments)	Teacher needs to connect changes in volume and density with motion of particles in the three states of matter.

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 05**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS3B	Conduction, radiation, and convection, or mechanical mixing, are means of energy transfer.	<ul style="list-style-type: none"> Use everyday examples of conduction, radiation, and convection, or mechanical mixing, to illustrate the transfer of energy from warmer objects to cooler ones until the objects reach the same temperature. 	Reading: Density Creates Currents SG pp 48-51	Aligned as designed	
PS3C	Heat (thermal energy) consists of random motion and the vibrations of atoms and molecules. The higher the temperature, the greater the atomic or molecular motion. Thermal insulators are materials that resist the flow of heat.	<ul style="list-style-type: none"> Explain how various types of insulation slow transfer of heat energy based on the atomic-molecular model of heat (thermal energy). 	Inquiry 5.1, 5.2, 5.3 SG pp 40-43; Student Sheet 5 TG pp 61-63; Reading: Just a Load of Hot Air SG pp 46-47	Aligned with modifications (see comments)	Teacher needs to connect changes in volume and density with motion of particles in the three states of matter.
ES2F	The crust is composed of huge crustal plates on the scale of continents and oceans which move centimeters per year, pushed by convection in the upper mantle, causing earthquakes, volcanoes, and mountains.	<ul style="list-style-type: none"> Draw a labeled diagram showing how convection in the upper mantle drives movement of crustal plates. Describe what may happen when plate boundaries meet (e.g., earthquakes, tsunamis, faults, mountain building), with examples from the Pacific Northwest. 	Reading: Density Creates Currents SG pp 48-51	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 06**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 6.1 SG pp 58-60	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 6.1 SG pp 58-60; Reading: The Properties of Asbestos: The Pros and Cons SG pp 61-63	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 07**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> Describe how a technology has changed over time in response to societal challenges. 	Reading: Lost Wax Casting SG pp 71-73	Aligned as designed	
APPH	People in all cultures have made and continue to make contributions to society through science and technology.	<ul style="list-style-type: none"> Describe scientific or technological contributions to society by people in various cultures. 	Reading: Lost Wax Casting SG pp 71-73	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 7.1 SG 66-67; Reading: Boiling Oil SG pp 68-70; Reading: Lost Wax Casting SG pp 71-73	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 08**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 8.1-8.2 SG pp 76-77	Aligned as designed	
PS2F	When substances within a closed system interact, the total mass of the system remains the same. This concept, called conservation of mass, applies to all physical and chemical changes.	<ul style="list-style-type: none"> • Apply the concept of conservation of mass to correctly predict changes in mass before and after chemical reactions, including reactions that occur in closed containers, and reactions that occur in open containers where a gas is given off.*a 	Inquiry 8.1-8.2 SG pp 76-77	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 09**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 9.1; Student sheet 9 TG pp 105-109	Aligned as designed	
PS2F	When substances within a closed system interact, the total mass of the system remains the same. This concept, called conservation of mass, applies to all physical and chemical changes.	<ul style="list-style-type: none"> • Apply the concept of conservation of mass to correctly predict changes in mass before and after chemical reactions, including reactions that occur in closed containers, and reactions that occur in open containers where a gas is given off.*a 	Student sheet 9 TG pp 105-109	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 10**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
SYSA	Any system may be thought of as containing subsystems and as being a subsystem of a larger system.	<ul style="list-style-type: none"> Given a system, identify subsystems and a larger encompassing system 	SG pp 87-95; Reading: Bicycle Ingredients, SG pp 96-97	Aligned with modifications (see comments)	Teacher needs to emphasize the bicycle as a system and the student selected object.
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> Describe how a technology has changed over time in response to societal challenges. 	SG pp 87-95; Reading: Bicycle Ingredients, SG pp 96-97	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	SG pp 87-95; Reading: Bicycle Ingredients, SG pp 96-97	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 11**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> Describe how a technology has changed over time in response to societal challenges. 	Reading: Perfect Teamwork SG pp 102-105	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> 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. 	SG pp 98-100; Inquiry 11.1 SG pp 100-101; Reading: Perfect Teamwork SG pp 102-105	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 12**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> Describe how a technology has changed over time in response to societal challenges. 	Reading: Dissolving History pp 110-111	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	TG p 138; Inquiry 12.1 SG pp 108-109	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> 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. 	TG p 138; Inquiry 12.1 SG pp 108-109	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 12**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2B	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.	<ul style="list-style-type: none"> • 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. 	TG p 138; Inquiry 12.1 SG pp 108-109	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 13**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQA	Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world.	<ul style="list-style-type: none"> • Generate a question that can be answered through scientific investigation. This may involve refining or refocusing a broad and ill-defined question. 	Inquiry 13.2 SG pp 114-115; Student Sheet 13.2 TG pp 150-151	Aligned as designed	
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> • 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. 	Inquiry 13.2 SG pp 114-115; Student Sheet 13.2 TG pp 150-151	Aligned as designed	
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • 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. 	Inquiry 13.2 SG pp 114-115; Student Sheet 13.2 TG pp 150-151	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 13**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQD	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.	<ul style="list-style-type: none"> 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. 	Inquiry 13.2 SG pp 114-115; Student Sheet 13.2 TG pp 150-151	Aligned as designed	
INQF	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> 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. 	Inquiry 13.2 SG pp 114-115; Student Sheet 13.2 TG pp 150-151	Aligned as designed	
INQG	Scientific reports should enable another investigator to repeat the study to check the results.	<ul style="list-style-type: none"> 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. 	Inquiry 13.2 SG pp 114-115; Student Sheet 13.2 TG pp 150-151	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 13**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Getting Started TG p 146; Inquiry 13.1 SG p 114; Inquiry 13.2 SG pp 114-115	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> • 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. 	Getting Started TG p 146; Inquiry 13.1 SG p 114; Inquiry 13.2 SG pp 114-115	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 14**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2F	When substances within a closed system interact, the total mass of the system remains the same. This concept, called conservation of mass, applies to all physical and chemical changes.	<ul style="list-style-type: none"> Apply the concept of conservation of mass to correctly predict changes in mass before and after chemical reactions, including reactions that occur in closed containers, and reactions that occur in open containers where a gas is given off.*a 	Inquiry 14.1 SG pp 119-120; Inquiry 14.2 SG pp 120-121	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 15**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQA	Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world.	<ul style="list-style-type: none"> • Generate a question that can be answered through scientific investigation. This may involve refining or refocusing a broad and ill-defined question. 	Inquiry 15.2 pp 126-127; Student Sheet 15.2 TG p 168	Aligned as designed	
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • 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. 	Inquiry 15.2 pp 126-127; Student Sheet 15.2 TG p 168	Aligned as designed	
INQD	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.	<ul style="list-style-type: none"> • 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. 	Inquiry 15.2 pp 126-127; Student Sheet 15.2 TG p 168	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 15**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQF	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> • 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. 	Inquiry 15.2 pp 126-127; Student Sheet 15.2 TG p 168	Aligned as designed	
INQG	Scientific reports should enable another investigator to repeat the study to check the results.	<ul style="list-style-type: none"> • 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. 	Inquiry 15.2 pp 126-127; Student Sheet 15.2 TG p 168	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Getting Started SG pp 123-124; Inquiry 15.2 pp 126-127	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 15**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2B	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.	<ul style="list-style-type: none"> • 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. 	Inquiry 15.1 SG pp 124-125; Inquiry 15.2 pp 126-127; Reading: Separating Solutions and the Salty Sea SG pp 128-129	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 16**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQA	Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world.	<ul style="list-style-type: none"> • Generate a question that can be answered through scientific investigation. This may involve refining or refocusing a broad and ill-defined question. 	Inquiry 16.1 SG pp 132-133	Aligned as designed	
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> • 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. 	Inquiry 16.1 SG pp 132-133	Aligned as designed	
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • 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. 	Inquiry 16.1 SG pp 132-133	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 16**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQD	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.	<ul style="list-style-type: none"> 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. 	Inquiry 16.1 SG pp 132-133	Aligned with modifications (see comments)	Have teacher make explicit the independent and dependent variables.
INQF	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> 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. 	Inquiry 16.1 SG pp 132-133; Reflections 4-5 TG p 177	Aligned as designed	
INQG	Scientific reports should enable another investigator to repeat the study to check the results.	<ul style="list-style-type: none"> 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. 	Inquiry 16.1 SG pp 132-133	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 16**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<p>PS2A</p>	<p>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.</p>	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	<p>Inquiry 16.1 SG pp 132-133; Reading: Getting Taken to the Cleaners SG pp 134-135; Reading: Mixing Colorful Coverings SG pp 136-139</p>	<p>Aligned as designed</p>	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 17**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQA	Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world.	<ul style="list-style-type: none"> • Generate a question that can be answered through scientific investigation. This may involve refining or refocusing a broad and ill-defined question. 	Inquiry 17.3 SG pp 144-145; TG p 190; Student Sheet 17.3	Aligned as designed	
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> • 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. 	Inquiry 17.3 SG pp 144-145; TG p 190; Student Sheet 17.3	Aligned as designed	
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • 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. 	Inquiry 17.3 SG pp 144-145; TG p 190; Student Sheet 17.3	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 17**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQF	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> • 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. 	Inquiry 17.3 SG pp 144-145; TG p 190; Student Sheet 17.3	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> • 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. 	Inquiry 17.1, 17.2, 17.3 SG pp 142-145; Reading: Separation Science at the FBI SG pp 146-149	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 18**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 18.1, 18.2, 18.3 SG pp 152-157; Reading: The Samurai's Sword SG pp 158-159; Reading: Ice Cream in the Old Days SG pp 160-161	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> • 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. 	Inquiry 18.1, 18.2, 18.3 SG pp 152-157; Reading: The Samurai's Sword SG pp 158-159; Reading: Ice Cream in the Old Days SG pp 160-161	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 19**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 19.1 Reading: Panning For Gold SG pp 165-167; Student Sheet 19.2; TG pp 216-222	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> • 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. 	Inquiry 19.1 Reading: Panning For Gold SG pp 165-167; Student Sheet 19.2; TG pp 216-222	Aligned as designed	
PS2F	When substances within a closed system interact, the total mass of the system remains the same. This concept, called conservation of mass, applies to all physical and chemical changes.	<ul style="list-style-type: none"> • Apply the concept of conservation of mass to correctly predict changes in mass before and after chemical reactions, including reactions that occur in closed containers, and reactions that occur in open containers where a gas is given off.*a 	Student Sheet 19.2; TG pp 216-222	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 20**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 20.1 SG pp 172-177; Student Sheet 20.1 TG pp 237-239; Reading: The Properties of Hydrogen and the Death of an Airship SG pp 180-182; Reading: Extracting Aluminum SG pp 183-185	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> • 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. 	Inquiry 20.1 SG pp 172-177; Student Sheet 20.1; TG pp 237-239	Aligned as designed	
PS2C	All matter is made of atoms. Matter made of only one type of atom is called an element.	<ul style="list-style-type: none"> • Explain that all matter is made of atoms, and give examples of common elements—substances composed of just one kind of atom. 	Inquiry 20.1 SG pp 172-177; Student Sheet 20.1; TG pp 237-239	Aligned with modifications (see comments)	The unit/lesson contains opportunities for the use of ATOMS but it requires the intentional use by teachers.

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 20**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2D	Compounds are composed of two or more kinds of atoms, which are bound together in well-defined molecules or arrays.	<ul style="list-style-type: none"> • Demonstrate with a labeled diagram and explain the relationship among atoms, molecules, elements, and compounds. 	Inquiry 20.1 SG pp 172-177; Student Sheet 20.1; TG pp 237-239	Aligned as designed	
PS3A	Energy exists in many forms: heat, light, chemical, electrical, motion of objects, and sound. Energy can be transformed from one form to another and transferred from one place to another.	<ul style="list-style-type: none"> • List different forms of energy (e.g., thermal, light, chemical, electrical, kinetic, and sound energy). • Describe ways in which energy is transformed from one form to another and transferred from one place to another (e.g., chemical to electrical energy in a battery, electrical to light energy in a bulb). 	Reading: Car Battery or Chemical Factory? SG pp 178-179	Aligned as designed	
PS3E	Energy from a variety of sources can be transformed into electrical energy, and then to almost any other form of energy. Electricity can also be distributed quickly to distant locations.	<ul style="list-style-type: none"> • Illustrate the transformations of energy in an electric circuit when heat, light, and sound are produced. Describe the transformation of energy in a battery within an electric circuit. 	Reading: Car Battery or Chemical Factory? SG pp 178-179	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 21**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 21.1 SG pp 188-194; Reading: Dmitry's Card Game SG pp 195-197	Aligned as designed	
PS2C	All matter is made of atoms. Matter made of only one type of atom is called an element.	<ul style="list-style-type: none"> • Explain that all matter is made of atoms, and give examples of common elements—substances composed of just one kind of atom. 	Inquiry 21.1 SG pp 188-194; Reading: Dmitry's Card Game SG pp 195-197	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 22**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> Describe how a technology has changed over time in response to societal challenges. 	Reading: Alchemy Into Chemistry SG pp 206-207	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 22.1	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> 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. 	Inquiry 22.2; Reading: Synthesizing New Materials SG pp 204-205	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 22**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2C	All matter is made of atoms. Matter made of only one type of atom is called an element.	<ul style="list-style-type: none"> • Explain that all matter is made of atoms, and give examples of common elements—substances composed of just one kind of atom. 	Inquiry 22.1, 22.2 SG pp 200-203	Aligned as designed	
PS2D	Compounds are composed of two or more kinds of atoms, which are bound together in well-defined molecules or arrays.	<ul style="list-style-type: none"> • Demonstrate with a labeled diagram and explain the relationship among atoms, molecules, elements, and compounds. 	Inquiry 22.2 SG pp 201-203	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 23**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> Describe how a technology has changed over time in response to societal challenges. 	Reading: Making Metals by Mistake SG pp 216-217	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 23.1 23.2 SG pp 210-213; Reading: Reactivity and Free Metals SG pp 214-215; Reading: Making Metals by Mistake SG pp 216-217	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> 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. 	Inquiry 23.2 SG pp 211-213; Reading: Making Metals by Mistake SG pp 216-217	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 23**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2B	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.	<ul style="list-style-type: none"> • 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. 	Inquiry 23.1 23.2 SG pp 210-213; Reading: Reactivity and Free Metals SG pp 214-215; Reading: Making Metals by Mistake SG pp 216-217	Aligned as designed	
PS2D	Compounds are composed of two or more kinds of atoms, which are bound together in well-defined molecules or arrays.	<ul style="list-style-type: none"> • Demonstrate with a labeled diagram and explain the relationship among atoms, molecules, elements, and compounds. 	Inquiry 23.2 SG pp 211-213; Reading: Making Metals by Mistake SG pp 216-217	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 24**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQA	Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world.	<ul style="list-style-type: none"> • Generate a question that can be answered through scientific investigation. This may involve refining or refocusing a broad and ill-defined question. 	Getting Started TG p 297; Inquiry 24.1 SG pp 220-221	Aligned as designed	
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> • 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. 	Getting Started TG p 297; Inquiry 24.1 SG pp 220-221	Aligned as designed	
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • 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. 	Getting Started TG p 297; Inquiry 24.1 SG pp 220-221	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 24**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQF	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> • 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. 	Getting Started TG p 297; Inquiry 24.1 SG pp 220-221	Aligned as designed	
INQG	Scientific reports should enable another investigator to repeat the study to check the results.	<ul style="list-style-type: none"> • 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. 	Getting Started TG p 297; Inquiry 24.1 SG pp 220-221	Aligned as designed	
PS2D	Compounds are composed of two or more kinds of atoms, which are bound together in well-defined molecules or arrays.	<ul style="list-style-type: none"> • Demonstrate with a labeled diagram and explain the relationship among atoms, molecules, elements, and compounds. 	Getting Started TG p 297	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 25**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Student Sheet 25 Review for Compounds Elements and Chemical Reactions TG pp 311-312	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> • 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. 	Student Sheet 25 Review for Compounds Elements and Chemical Reactions TG pp 311-312	Aligned as designed	
PS2C	All matter is made of atoms. Matter made of only one type of atom is called an element.	<ul style="list-style-type: none"> • Explain that all matter is made of atoms, and give examples of common elements—substances composed of just one kind of atom. 	Student Sheet 25 Review for Compounds Elements and Chemical Reactions TG pp 311-312	Aligned with modifications (see comments)	The unit/lesson contains opportunities for the use of terms ATOMS but it requires the intentional use by teachers.

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 25**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2D	Compounds are composed of two or more kinds of atoms, which are bound together in well-defined molecules or arrays.	<ul style="list-style-type: none"> • Demonstrate with a labeled diagram and explain the relationship among atoms, molecules, elements, and compounds. 	Student Sheet 25 Review for Compounds Elements and Chemical Reactions TG pp 311-312	Aligned as designed	
PS2F	When substances within a closed system interact, the total mass of the system remains the same. This concept, called conservation of mass, applies to all physical and chemical changes.	<ul style="list-style-type: none"> • Apply the concept of conservation of mass to correctly predict changes in mass before and after chemical reactions, including reactions that occur in closed containers, and reactions that occur in open containers where a gas is given off.*a 	Getting Started SG p 225; Inquiry 25.1 SG pp 226-227; Reading: The Mass of Matter SG pp 228-229; SS 25 TG pp 311-312	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 26**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 26.1 SG pp 232-235; Student Sheet 26.1 TG pp 319-320; Student Sheet 26 TG pp 321-331	Aligned as designed	
PS2A	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.	<ul style="list-style-type: none"> • Use characteristic intrinsic properties such as density, boiling point, and melting point to identify an unknown substance. 	Inquiry 26.1 SG pp 232-235; Student Sheet 26.1 TG pp 319-320; Student Sheet 26 TG pp 321-331	Aligned as designed	
PS2B	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.	<ul style="list-style-type: none"> • 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. 	Student Sheet 26 TG pp 321-331	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
STC/MS Properties of Matter ~ Lesson 26**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS2D	Compounds are composed of two or more kinds of atoms, which are bound together in well-defined molecules or arrays.	<ul style="list-style-type: none"> • Demonstrate with a labeled diagram and explain the relationship among atoms, molecules, elements, and compounds. 	Student Sheet 26 TG pp 321-331	Aligned as designed	
PS2F	When substances within a closed system interact, the total mass of the system remains the same. This concept, called conservation of mass, applies to all physical and chemical changes.	<ul style="list-style-type: none"> • Apply the concept of conservation of mass to correctly predict changes in mass before and after chemical reactions, including reactions that occur in closed containers, and reactions that occur in open containers where a gas is given off.*a 	Inquiry 26.1 SG pp 232-235; Student Sheet 26.1 TG pp 319-320; Student Sheet 26 TG pp 321-331	Aligned as designed	