

WASHINGTON STATE LASER

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

STC/MS

Light

November 1, 2010

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

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 1.1 - Inquiry 1.8 SG pp 4-11; Student Sheet 1.1, TG pp 17-20	Aligned as designed	This unit/lesson is a part of a conceptual sequence because students generate questions to be answered throughout the module.
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: Using and Studying Light SG pp 12-15	Aligned as designed	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientist.
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). 	Inquiry 1.1 - Inquiry 1.8 SG pp 4-11; Student Sheet 1.1, TG pp 17-20	Aligned as designed	This unit/lesson is a part of a conceptual sequence because students generate questions to be answered throughout the module.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<p>PS3D</p>	<p>Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.</p>	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	<p>Inquiry 1.1 - Inquiry 1.8 SG pp 4-11; Student Sheet 1.1, TG pp 17-20</p>	<p>Aligned as designed</p>	<p>This unit/lesson is a part of a conceptual sequence because students generate questions to be answered throughout the module.</p>

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<p>PS3E</p>	<p>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.</p>	<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. 	<p>Inquiry 2.2 SG pp 22-23; Reflection SG pp 24-26; Reading: Transforming Energy SG p 27; Reading: Sources of Light SG pp 28-29; Student Sheet 2.2, TG pp 33-36</p>	<p>Aligned as designed</p>	

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 3.1 p 34 SG; Student Sheet 3.1, TG pp 33-36	Aligned with modifications (see comments)	Teachers need to emphasize how to correctly write a hypothesis. Teacher has multiple opportunities to reinforce the steps to a controlled experiment.
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: Racing to Find the Speed of Light SG pp 35-37	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: Racing to Find the Speed of Light SG pp 35-37	Aligned with modifications (see comments)	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientists. Teachers need to ask students to complete TG p 43 Extension number 3.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> Describe how to demonstrate that visible light from the Sun is made up of different colors. Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Getting Started SG p 33; Student Sheet 3.1, TG pp 45-48	Aligned as designed	

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 4.1 pp 42-45 SG; Reading: Light and Distance pp 46-47; Student Sheet 4.1, TG pp 55-57	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 4.1 SG pp 42-45 ; Reading: Light and Distance SG pp 46-47, Student Sheet: 4.1, TG pp 55-57	Aligned with modifications (see comments)	Teachers need to emphasize all variables. The teacher needs to be intentional about discussing what happened and how experimental results show an inverse relationship.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 SG p 49; Inquiry 5.1 SG p 50; Reading: SG p 51; Student Sheet 5.1 TG pp 67-68; Inquiry 5.2 pp 52-53; Student Sheet 5.2; TG pp 69-71	Aligned as designed	Students are asked to design a table to present relationships about objects.
ES1A	The Moon's monthly cycle of phases can be explained by its changing relative position as it orbits Earth. An eclipse of the Moon occurs when the Moon enters Earth's shadow. An eclipse of the Sun occurs when the Moon is between the Earth and Sun, and the Moon's shadow falls on the Earth.	<ul style="list-style-type: none"> • Use a physical model or diagram to explain how the Moon's changing position in its orbit results in the changing phases of the Moon as observed from Earth. • Explain how the cause of an eclipse of the Moon is different from the cause of the Moon's phases. 	Inquiry 5.3 SG p 53; Reading: Astronomical Shadows SG p 54	Aligned as designed	The unit/lesson intentionally refers to eclipses when discussing shadows. Extensions activities 1 and 3 also refer to eclipses.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 6.1 SG pp 61-62; Student Sheet 6.1 TG pp 79-80; Inquiry 6.2 SG p 63; Student Sheet 6.2 TG pp 81-82	Aligned as designed	Students are asked to make and test predictions.
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 6.1 SG pp 61-62; Student Sheet 6.1 TG pp 79-80; Inquiry 6.2 SG p 63; Student Sheet 6.2 TG pp 81-82	Aligned as designed	Students are asked to write observations and to draw diagrams that explain their observations.
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: Pictures Through a Pinhole SG pp 64-67	Aligned as designed	

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQE	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.	<ul style="list-style-type: none"> • 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. 	Getting Started SG p 69; Reading: Scientific Models SG p 71; Inquiry 7.1 SG pp 72-73; Student Sheet 7.1 TG pp 93-94; Inquiry 7.2 SG pp 74-77; Student Sheet 7.2 pp 95-98	Aligned as designed	
PS3F	Energy can be transferred from one place to another through waves. Waves include vibrations in materials. Sound and earthquake waves are examples. These and other waves move at different speeds in different materials.	<ul style="list-style-type: none"> • Contrast a light wave with a sound wave by identifying that both have characteristic wavelengths, but light waves can travel through a vacuum while sound waves cannot. • Explain that sound is caused by a vibrating object. 	Getting Started SG p 69; Reading: Scientific Models SG p 71; Inquiry 7.1 SG pp 72-73; Student Sheet 7.1 TG pp 93-94; Inquiry 7.2 SG pp 74-77; Student Sheet 7.2 pp 95-98	Aligned as designed	

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

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: The Impurity of Light SG pp 87-89	Aligned as designed	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientist.
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Introduction SG p 82; Getting started SG p 83; Inquiry 8.1 SG pp 84-86; Reading: The Impurity of White SG pp 87-89; Reading: Explaining a Rainbow SG pp 90-91	Aligned as designed	

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 9.1 SG p 94	Aligned as designed	
INQE	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.	<ul style="list-style-type: none"> • 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. 	Introduction SG p 92; Getting Started SG p 93; Inquiry 9.1 SG pp 94-95	Aligned as designed	
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: The Hidden Spectrum SG pp 99-101	Aligned as designed	

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

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: The Hidden Spectrum SG pp 99-101	Aligned with modifications (see comments)	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientists.
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> Describe how to demonstrate that visible light from the Sun is made up of different colors. Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Introduction SG p 92; Inquiry 9.2 SG p 96; Reading: The Hidden Spectrum SG pp 99-101; Student sheet 9.2 TG pp 117-118	Aligned as designed	
PS3F	Energy can be transferred from one place to another through waves. Waves include vibrations in materials. Sound and earthquake waves are examples. These and other waves move at different speeds in different materials.	<ul style="list-style-type: none"> Contrast a light wave with a sound wave by identifying that both have characteristic wavelengths, but light waves can travel through a vacuum while sound waves cannot. Explain that sound is caused by a vibrating object. 	Introduction SG p 92; Getting Started SG p 93; Inquiry 9.1 SG pp 94-95	Aligned as designed	The unit/lesson intentionally refers to light and not sound.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 10.1 SG pp 110-113; Student sheet 10.1 TG pp 125-126; Reading: The Science of Spectroscopy SG pp 114-115	Aligned as designed	
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Introduction SG p 108; Getting Started SG p 109; Inquiry 10.1 SG pp 110-113; Student sheet 10.1 TG pp 125-126; Reading: The Science of Spectroscopy SG pp 114-115	Aligned as designed	Students are asked to compare spectra of different light sources. TG p 124 Extensions 1 and 3 suggest others light sources to investigate.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 11.2 SG pp 118-119	Aligned as designed	
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: Printing in Color SG pp 123-126	Aligned as designed	
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> Describe how to demonstrate that visible light from the Sun is made up of different colors. Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Introduction SG p 116; Getting Started SG p 117; Inquiry 11.1 SG p 118; Student Sheet 11.1, Inquiry 11.2 SG pp 118-119; Reading: Why Objects Looked Colored SG pp 120-122; Reading: Printing in Color SG pp 123-126; Reading: A Green Engine Driven by the Sun SG pp 127-131	Aligned as designed	Extensions TG p 131 number 1 and 2.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
LS2C	<p>The major source of energy for ecosystems on Earth's surface is sunlight. Producers transform the energy of sunlight into the chemical energy of food through photosynthesis. This food energy is used by plants, and all other organisms to carry on life processes. Nearly all organisms on the surface of Earth depend on this energy source.</p>	<ul style="list-style-type: none"> • Explain how energy from the Sun is transformed through photosynthesis to produce chemical energy in food. • Explain that producers are the only organisms that make their own food. Animals cannot survive without producers because animals get food by eating producers or other animals that eat producers. 	<p>Reading: A Green Engine Driven by the Sun SG pp 127-131</p>	<p>Aligned as designed</p>	<p>Extension TG p 131 number 1.</p>

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 12.1 SG pp 133-134	Aligned as designed	
APPC	Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods.	<ul style="list-style-type: none"> • Give examples to illustrate how scientists have helped solve technological problems (e.g., how the science of biology has helped sustain fisheries) and how engineers have aided science (e.g., designing telescopes to discover distant planets). 	Reading: Red, Green, and Blue Entertainment SG pp 135-137	Aligned as designed	TG p 140 Extension 3 helps to reinforce concept.
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). 	Practice (sample) Written Assessment Inquiry 12.3 (Student Sheet 12.3) TG pp 148-151	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> Describe how to demonstrate that visible light from the Sun is made up of different colors. Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Introduction SG p 132; Inquiry 12.1 SG pp 133-134	Aligned as designed	Teachers need to emphasize pictures in Reading: About Color Vision and Color Mixing SG p 134.
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> Describe how to demonstrate that visible light from the Sun is made up of different colors. Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Practice (sample) Written Assessment Inquiry 12.3 (Student Sheet 12.3) TG pp 148-151	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.
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. 	Practice (sample) Written Assessment Inquiry 12.3 (Student Sheet 12.3) TG pp 148-151	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<p>PS3F</p>	<p>Energy can be transferred from one place to another through waves. Waves include vibrations in materials. Sound and earthquake waves are examples. These and other waves move at different speeds in different materials.</p>	<ul style="list-style-type: none"> • Contrast a light wave with a sound wave by identifying that both have characteristic wavelengths, but light waves can travel through a vacuum while sound waves cannot. • Explain that sound is caused by a vibrating object. 	<p>Practice (sample) Written Assessment Inquiry 12.3 (Student Sheet 12.3) TG pp 148-151</p>	<p>Aligned as designed</p>	<p>The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.</p>

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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. 	Performance Assessment Inquiry 13.1 SG pp 140-141; Student Sheet 13.1, TG pp 159-165	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.
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). 	Performance Assessment Inquiry 13.1 SG pp 140-141; Student Sheet 13.1 Written Assessment; Inquiry 13.2 (Student Sheet 13.2) TG pp 160-164	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Performance Assessment Inquiry 13.1 SG pp 140-141; Student Sheet 13.1 Written Assessment; Inquiry 13.2 (Student Sheet 13.2) TG pp 160-164	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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. 	Performance Assessment Inquiry 13.1 SG pp 140-141; Student Sheet 13.1 Written Assessment; Inquiry 13.2 (Student Sheet 13.2) TG pp 160-164	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.
PS3F	Energy can be transferred from one place to another through waves. Waves include vibrations in materials. Sound and earthquake waves are examples. These and other waves move at different speeds in different materials.	<ul style="list-style-type: none"> • Contrast a light wave with a sound wave by identifying that both have characteristic wavelengths, but light waves can travel through a vacuum while sound waves cannot. • Explain that sound is caused by a vibrating object. 	Performance Assessment: Inquiry 13.1 SG pp 140-141; Student Sheet 13.1 Written Assessment; Inquiry 13.2 (Student Sheet 13.2) TG pp 160-164	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.
LS2C	The major source of energy for ecosystems on Earth's surface is sunlight. Producers transform the energy of sunlight into the chemical energy of food through photosynthesis. This food energy is used by plants, and all other organisms to carry on life processes. Nearly all organisms on the surface of Earth depend on this energy source.	<ul style="list-style-type: none"> • Explain how energy from the Sun is transformed through photosynthesis to produce chemical energy in food. • Explain that producers are the only organisms that make their own food. Animals cannot survive without producers because animals get food by eating producers or other animals that eat producers. 	Performance Assessment: Inquiry 13.1 SG pp 140-141; Student Sheet 13.1; TG p 159; Written Assessment Inquiry 13.2 (Student Sheet 13.2) TG pp 160-164	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-12.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 14.2 SG pp 148-149; Student Sheet 14.2, TG pp 177-178	Aligned as designed	
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: Mirror Makers SG pp 152-153	Aligned with modifications (see comments)	Use with TG p 175 extension number 3.
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Introduction SG p 144; Getting Started SG p 145; Reading: Reflecting Light SG p 146; Inquiry 14.1 SG p 147; Inquiry 14.2 SG pp 148-149; Student Sheet 14.2, TG pp 177-178; Inquiry 14.3 SG pp 150-151; Student Sheet 14.3, TG pp 179-180	Aligned as designed	

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 15.2 SG p 160; Inquiry 15.3 SG p 160	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: Abu Ali Hasan Ibn al-Haytham SG pp 163-165	Aligned with modifications (see comments)	Use with TG p 187 Extension number 2. The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientists.
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Getting Started SG p 155; Inquiry 15.1 SG pp 156-157; Reading: Explaining the Virtual Image SG pp 161-162	Aligned as designed	

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 168-170; Inquiry 16.2 SG pp 171-174	Aligned as designed	
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: Search and Reflect SG pp 175-177; Reading: the Trouble With Hubble SG pp 178-185	Aligned as designed	
APPC	Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods.	<ul style="list-style-type: none"> • Give examples to illustrate how scientists have helped solve technological problems (e.g., how the science of biology has helped sustain fisheries) and how engineers have aided science (e.g., designing telescopes to discover distant planets). 	Reading: Search and Reflect SG pp 175-177; Reading: the Trouble With Hubble SG pp 178-185	Aligned as designed	

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 Trouble With Hubble SG pp 178-185	Aligned as designed	Students can generate their own solutions to a problem by completing TG p 203 Extension number 2.
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Getting Started SG p 167; Inquiry 16.1 SG pp 168-170; Inquiry 16.2 SG pp 171-174	Aligned as designed	

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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. 	<p>Inquiry 17.2 SG pp 189-191; Student Sheet 17.2 TG pp 219-220; Inquiry 17.3 SG pp 191-195; Student Sheet 17.3, TG pp 221-223</p>	Aligned as designed	
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	<p>Inquiry 17.1 SG p 188; Inquiry 17.2 SG pp 189-191; Student Sheet 17.2, TG pp 219-220; Inquiry 17.3 SG pp 191-195; Student Sheet 17.3 TG pp 221-223; Reading: Refractive Index and Wet Paints SG pp 196-199</p>	Aligned as designed	TG p 216 Extension 2 provides an opportunity to apply results to a new situation.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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 SG p 201; Inquiry 18.1 SG pp 202-204; Student Sheet 18.1 TG pp 239-240; Inquiry 18.2 SG pp 205-207; Student Sheet 18.2 TG pp 241-242; Inquiry 18.3 SG pp 208-210; Student Sheet 18.3 TG pp 243-246	Aligned as designed	
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. 	TG p 235 Extension number 4 (Reading: Movie Physics SG pp 211-213)	Aligned as designed	
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Getting Started SG p 201; Inquiry 18.1 SG pp 202-204; Student Sheet 18.1 pp 239-240; Inquiry 18.2 SG pp 205-207; Student Sheet 18.2 pp 241-242; Inquiry 18.3 SG pp 208-210; Student Sheet 18.3 pp 243-246	Aligned as designed	

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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. 	Introduction SG p 214; Getting Started SG p 215; Inquiry 19.1 SG p 216; Student Sheet 19.1 TG pp 259; Inquiry 19.2 SG p 217; Student Sheet 19.2 TG pp 260; Inquiry 19.3 SG p 217; Student Sheet 19.3 TG pp 261; Inquiry 19.4 SG pp 218-219; Student Sheet 19.4 TG 262-265; Reflection SG p 220	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. 	Introduction SG p 214; Getting Started SG p 215; Inquiry 19.1 SG p 216; Student Sheet 19.1 TG pp 259; Inquiry 19.2 SG p 217; Student Sheet 19.2 TG pp 260; Inquiry 19.3 SG p 217; Student Sheet 19.3 TG pp 261; Inquiry 19.4 SG pp 218-219; Student Sheet 19.4 TG 262-265; Reflection SG p 220	Aligned as designed	
INQE	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.	<ul style="list-style-type: none"> • 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. 	Introduction SG p 214; Getting Started SG p 215; Inquiry 19.1 SG p 216; Student Sheet 19.1 TG pp 259; Inquiry 19.2 SG p 217; Student Sheet 19.2 TG pp 260; Inquiry 19.3 SG p 217; Student Sheet 19.3 TG pp 261; Inquiry 19.4 SG pp 218-219; Student Sheet 19.4 TG 262-265; Reflection SG p 220	Aligned as designed	

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

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: The Greatest Scientific Argument of the Millennium? SG pp 221-223	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: The Greatest Scientific Argument of the Millennium? SG pp 221-223	Aligned as designed	
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> Describe how to demonstrate that visible light from the Sun is made up of different colors. Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Inquiry 19.5 (Student Sheet 19.35); Practice (sample) Written Assessment Inquiry 19.6 (Student Sheet 19.6) TG pp 269-272	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 14-19.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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. 	Performance Assessment Inquiry 20.1 SG p 226; Student Sheet 20.1 Written Assessment Inquiry 20.2 (Student Sheet 20.2) TG pp 283-289	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 14-19.
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Performance Assessment Inquiry 20.1 SG p 226; Student Sheet 20.1 Written Assessment Inquiry 20.2 (Student Sheet 20.2) TG pp 283-289	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 14-19.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQE	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.	<ul style="list-style-type: none"> • 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. 	Introduction SG p 230; Getting Started SG p 231; Inquiry 21.1 SG p 231; Student Sheet 21.1 TG p 303; Inquiry 21.2 SG pp 232-237; Student Sheet 21.2 TG p 304; Reading: Optics in Action - Digital Data and Amazing Music SG pp 238-240; Reading: Light in Step - A Laser Component SG pp 241-243	Aligned as designed	
APPC	Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods.	<ul style="list-style-type: none"> • Give examples to illustrate how scientists have helped solve technological problems (e.g., how the science of biology has helped sustain fisheries) and how engineers have aided science (e.g., designing telescopes to discover distant planets). 	Introduction SG p 230; Getting Started SG p 231; Inquiry 21.1 SG p 231; Student Sheet 21.1 TG p 303; Inquiry 21.2 SG pp 232-237; Student Sheet 21.2 TG p 304; Reading: Optics in Action - Digital Data and Amazing Music SG pp 238-240; Reading: Light in Step - A Laser Component SG pp 241-243	Aligned as designed	Anchor Activity Students are asked to demonstrate conceptual understanding of standards in Lessons 14-19, 22-23, and 25.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPC	Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods.	<ul style="list-style-type: none"> • Give examples to illustrate how scientists have helped solve technological problems (e.g., how the science of biology has helped sustain fisheries) and how engineers have aided science (e.g., designing telescopes to discover distant planets). 	Getting Started SG p 245; Inquiry 22.1 SG pp 246-247; Reading: How Telescopes Work SG pp 248-251	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. 	Getting Started SG p 245; Inquiry 22.1 SG pp 246-247; Reading: How Telescopes Work SG pp 248-251	Aligned as designed	TG p 310 Extension number 2 allows an additional experience.
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: How Telescopes Work SG pp 248-251	Aligned as designed	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientist.

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

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 	Introduction SG p 252; Getting Started SG p 253; Inquiry 23.1 SG p 245-257; Reading: Recording a Picture SG p 258-259	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: Making Pictures With Light SG pp 260-261; Reading: Mathew Brady Recorder of History SG pp 262-265	Aligned as designed	TG p 319 Extension number 4 and 5. The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientist.

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

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 	Introduction SG p 266; Inquiry 24.1 SG pp 268-271; Student Sheet 24.1 TG pp 331-332; Inquiry 24.2 SG pp 272-273; Student Sheet 24.2 TG p 333; Inquiry 24.3 SG pp 273-275; Reflection: SG pp 276-279; Video: Eye Witness: Sight	Aligned as designed	TG p 330 Extension number 2.
INQE	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.	<ul style="list-style-type: none"> 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. 	Introduction SG p 266; Inquiry 24.1 SG pp 268-271; Student Sheet 24.1 TG pp 331-332; Inquiry 24.2 SG pp 272-273; Student Sheet 24.2 TG p 333; Inquiry 24.3 SG pp 273-275; Reflection: SG pp 276-279	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: The Impossible Worlds of M.C. Escher SG pp 280-283	Aligned as designed	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientist. TG p 330 Extension number's 3 and 4.

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

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 	Assessment Review: Student Sheet 25.3 TG pp 344-345; Practice (sample) Written Assessment Inquiry 25.4 (Student Sheet 25.4) TG pp 346-348	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 22-25.
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: Light Messages SG pp 288-293	Aligned with modifications (see comments)	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientist.
PS3F	Energy can be transferred from one place to another through waves. Waves include vibrations in materials. Sound and earthquake waves are examples. These and other waves move at different speeds in different materials.	<ul style="list-style-type: none"> Contrast a light wave with a sound wave by identifying that both have characteristic wavelengths, but light waves can travel through a vacuum while sound waves cannot. Explain that sound is caused by a vibrating object. 	Introduction SG p 284; Inquiry 25.1 SG p 286; Inquiry 25.2 SG p 287; Reading: Light Messages SG pp 288-293	Aligned with modifications (see comments)	Teacher must be intentional about sharing how sound waves travel.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
<p>PS3F</p>	<p>Energy can be transferred from one place to another through waves. Waves include vibrations in materials. Sound and earthquake waves are examples. These and other waves move at different speeds in different materials.</p>	<ul style="list-style-type: none"> • Contrast a light wave with a sound wave by identifying that both have characteristic wavelengths, but light waves can travel through a vacuum while sound waves cannot. • Explain that sound is caused by a vibrating object. 	<p>Assessment Review: Student Sheet 25.3 TG pp 344-345; Practice (sample) Written Assessment Inquiry 25.4 (Student Sheet 25.4) TG pp 346-348</p>	<p>Aligned as designed</p>	<p>The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 22-25.</p>

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
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. 	Performance Assessment Inquiry 26.1 SG pp 295-296; Student Sheet 26.1 Written Assessment; Inquiry 26.2 (Student Sheet 26.2 and 26.3) TG pp 356-367	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lesson 1-25.
PS3D	Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	<ul style="list-style-type: none"> • Describe how to demonstrate that visible light from the Sun is made up of different colors. • Draw and label a diagram showing that for an object to be seen, light must come directly from the object or from an external source reflected from the object, and enter the eye. 	Performance Assessment: Inquiry 26.1 SG pp 295-296; Student Sheet 26.1 Written Assessment; Inquiry 26.2 (Student Sheet 26.2 and 26.3) TG pp 356-367	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-25.
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. 	Performance Assessment: Inquiry 26.1 SG pp 295-296; Student Sheet 26.1 Written Assessment; Inquiry 26.2 (Student Sheet 26.2 and 26.3) TG pp 356-367	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-25.

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

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
PS3F	Energy can be transferred from one place to another through waves. Waves include vibrations in materials. Sound and earthquake waves are examples. These and other waves move at different speeds in different materials.	<ul style="list-style-type: none"> • Contrast a light wave with a sound wave by identifying that both have characteristic wavelengths, but light waves can travel through a vacuum while sound waves cannot. • Explain that sound is caused by a vibrating object. 	Performance Assessment Inquiry 26.1 SG pp 295-296; Student Sheet 26.1 Written Assessment; Inquiry 26.2 (Student Sheet 26.2 and 26.3) TG pp 356-367	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students are asked to demonstrate conceptual understanding of standards covered in Lessons 1-25.