

WASHINGTON STATE LASER

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

STC/MS

Light

November 1, 2010

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Systems ~ SYSA**

Content Standard

Any system may be thought of as containing subsystems and as being a subsystem of a larger system.

Performance Expectation

- Given a system, identify subsystems and a larger encompassing system

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 23	Aligned as designed	Introduction SG p 252; Getting Started SG p 253; Inquiry 23.1 SG p 245-257; Reading: Recording a Picture SG p 258-259	
Lesson 24	Aligned as designed	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	TG p 330 Extension number 2.
Lesson 25	Aligned as designed	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	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.

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Inquiry ~ INQA**

Content Standard Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world.

Performance Expectation • Generate a question that can be answered through scientific investigation. This may involve refining or refocusing a broad and ill-defined question.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 01	Aligned as designed	Inquiry 1.1 - Inquiry 1.8 SG pp 4-11; Student Sheet 1.1, TG pp 17-20	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
Inquiry ~ INQB**

Content Standard

Different kinds of questions suggest different kinds of scientific investigations.

Performance Expectation

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

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 03	Aligned with modifications (see comments)	Inquiry 3.1 p 34 SG; Student Sheet 3.1, TG pp 33-36	Teachers need to emphasize how to correctly write a hypothesis. Teacher has multiple opportunities to reinforce the steps to a controlled experiment.
Lesson 06	Aligned as designed	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	Students are asked to make and test predictions.
Lesson 11	Aligned as designed	Inquiry 11.2 SG pp 118-119	
Lesson 12	Aligned as designed	Inquiry 12.1 SG pp 133-134	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Inquiry ~ INQB**

Content Standard

Different kinds of questions suggest different kinds of scientific investigations.

Performance Expectation

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

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 15	Aligned as designed	Inquiry 15.2 SG p 160; Inquiry 15.3 SG p 160	
Lesson 19	Aligned as designed	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	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Inquiry ~ INQC**

Content Standard

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

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

Performance Expectation

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

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 04	Aligned as designed	Inquiry 4.1 pp 42-45 SG; Reading: Light and Distance pp 46-47; Student Sheet 4.1, TG pp 55-57	
Lesson 05	Aligned as designed	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	Students are asked to design a table to present relationships about objects.
Lesson 06	Aligned as designed	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	Students are asked to write observations and to draw diagrams that explain their observations.
Lesson 09	Aligned as designed	Inquiry 9.1 SG p 94	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
 Inquiry ~ INQC**

Content Standard

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

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

Performance Expectation

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

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 10	Aligned as designed	Inquiry 10.1 SG pp 110-113; Student sheet 10.1 TG pp 125-126; Reading: The Science of Spectroscopy SG pp 114-115	
Lesson 13	Aligned as designed	Performance Assessment Inquiry 13.1 SG pp 140-141; Student Sheet 13.1, TG pp 159-165	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.
Lesson 14	Aligned as designed	Inquiry 14.2 SG pp 148-149; Student Sheet 14.2, TG pp 177-178	
Lesson 16	Aligned as designed	Inquiry 16.1 SG pp 168-170; Inquiry 16.2 SG pp 171-174	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Inquiry ~ INQC**

Content Standard

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

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

Performance Expectation

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

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 17	Aligned as designed	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	
Lesson 18	Aligned as designed	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	
Lesson 19	Aligned as designed	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	
Lesson 20	Aligned as designed	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	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
Inquiry ~ INQC**

Content Standard

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

Performance Expectation

- 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 26	Aligned as designed	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	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.

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Inquiry ~ INQD**

Content Standard

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

Performance Expectation

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

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 04	Aligned with modifications (see comments)	Inquiry 4.1 SG pp 42-45 ; Reading: Light and Distance SG pp 46-47, Student Sheet: 4.1, TG pp 55-57	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
Inquiry ~ INQE**

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

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

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 07	Aligned as designed	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	
Lesson 09	Aligned as designed	Introduction SG p 92; Getting Started SG p 93; Inquiry 9.1 SG pp 94-95	
Lesson 19	Aligned as designed	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	
Lesson 21	Aligned as designed	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	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Inquiry ~ INQE**

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

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

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 24	Aligned as designed	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	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Application ~ APPA**

Content Standard People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.

Performance Expectation • Describe how a technology has changed over time in response to societal challenges.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 03	Aligned as designed	Reading: Racing to Find the Speed of Light SG pp 35-37	
Lesson 06	Aligned as designed	Reading: Pictures Through a Pinhole SG pp 64-67	
Lesson 09	Aligned as designed	Reading: The Hidden Spectrum SG pp 99-101	
Lesson 11	Aligned as designed	Reading: Printing in Color SG pp 123-126	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Application ~ APPA**

Content Standard People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.

Performance Expectation • Describe how a technology has changed over time in response to societal challenges.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 14	Aligned with modifications (see comments)	Reading: Mirror Makers SG pp 152-153	Use with TG p 175 extension number 3.
Lesson 16	Aligned as designed	Reading: Search and Reflect SG pp 175-177; Reading: the Trouble With Hubble SG pp 178-185	
Lesson 18	Aligned as designed	TG p 235 Extension number 4 (Reading: Movie Physics SG pp 211-213)	
Lesson 19	Aligned as designed	Reading: The Greatest Scientific Argument of the Millennium? SG pp 221-223	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Application ~ APPC**

Content Standard 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.

Performance Expectation • 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).

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 12	Aligned as designed	Reading: Red, Green, and Blue Entertainment SG pp 135-137	TG p 140 Extension 3 helps to reinforce concept.
Lesson 16	Aligned as designed	Reading: Search and Reflect SG pp 175-177; Reading: the Trouble With Hubble SG pp 178-185	
Lesson 21	Aligned as designed	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	Anchor Activity Students are asked to demonstrate conceptual understanding of standards in Lessons 14-19, 22-23, and 25.
Lesson 22	Aligned as designed	Getting Started SG p 245; Inquiry 22.1 SG pp 246-247; Reading: How Telescopes Work SG pp 248-251	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Application ~ APPE**

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

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

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 16	Aligned as designed	Reading: the Trouble With Hubble SG pp 178-185	Students can generate their own solutions to a problem by completing TG p 203 Extension number 2.
Lesson 22	Aligned as designed	Getting Started SG p 245; Inquiry 22.1 SG pp 246-247; Reading: How Telescopes Work SG pp 248-251	TG p 310 Extension number 2 allows an additional experience.

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Application ~ APPH**

Content Standard People in all cultures have made and continue to make contributions to society through science and technology.

Performance Expectation • Describe scientific or technological contributions to society by people in various cultures.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 01	Aligned as designed	Reading: Using and Studying Light SG pp 12-15	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientist.
Lesson 03	Aligned with modifications (see comments)	Reading: Racing to Find the Speed of Light SG pp 35-37	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.
Lesson 08	Aligned as designed	Reading: The Impurity of Light SG pp 87-89	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientist.
Lesson 09	Aligned with modifications (see comments)	Reading: The Hidden Spectrum SG pp 99-101	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientists.

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Application ~ APPH**

Content Standard People in all cultures have made and continue to make contributions to society through science and technology.

Performance Expectation • Describe scientific or technological contributions to society by people in various cultures.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 15	Aligned with modifications (see comments)	Reading: Abu Ali Hasan Ibn al-Haytham SG pp 163-165	Use with TG p 187 Extension number 2. The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientists.
Lesson 19	Aligned as designed	Reading: The Greatest Scientific Argument of the Millennium? SG pp 221-223	
Lesson 22	Aligned as designed	Reading: How Telescopes Work SG pp 248-251	The teacher needs to intentionally take advantage of multiple opportunities to identify cultural backgrounds of scientist.
Lesson 23	Aligned as designed	Reading: Making Pictures With Light SG pp 260-261; Reading: Mathew Brady Recorder of History SG pp 262-265	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
Application ~ APPH**

Content Standard People in all cultures have made and continue to make contributions to society through science and technology.

Performance Expectation • Describe scientific or technological contributions to society by people in various cultures.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 24	Aligned as designed	Reading: The Impossible Worlds of M.C. Escher SG pp 280-283	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.
Lesson 25	Aligned with modifications (see comments)	Reading: Light Messages SG pp 288-293	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
Physical Science ~ PS3A**

Content Standard 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.

Performance Expectation

- 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).

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 01	Aligned as designed	Inquiry 1.1 - Inquiry 1.8 SG pp 4-11; Student Sheet 1.1, TG pp 17-20	This unit/lesson is a part of a conceptual sequence because students generate questions to be answered throughout the module.
Lesson 12	Aligned as designed	Practice (sample) Written Assessment Inquiry 12.3 (Student Sheet 12.3) TG pp 148-151	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.
Lesson 13	Aligned as designed	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	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
Physical Science ~ PS3D**

Content Standard 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.

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 01	Aligned as designed	Inquiry 1.1 - Inquiry 1.8 SG pp 4-11; Student Sheet 1.1, TG pp 17-20	This unit/lesson is a part of a conceptual sequence because students generate questions to be answered throughout the module.
Lesson 03	Aligned as designed	Getting Started SG p 33; Student Sheet 3.1, TG pp 45-48	
Lesson 08	Aligned as designed	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	
Lesson 09	Aligned as designed	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	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Physical Science ~ PS3D**

Content Standard 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.

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 10	Aligned as designed	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	Students are asked to compare spectra of different light sources. TG p 124 Extensions 1 and 3 suggest others light sources to investigate.
Lesson 11	Aligned as designed	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	Extensions TG p 131 number 1 and 2.
Lesson 12	Aligned as designed	Introduction SG p 132; Inquiry 12.1 SG pp 133-134	Teachers need to emphasize pictures in Reading: About Color Vision and Color Mixing SG p 134.
Lesson 12	Aligned as designed	Practice (sample) Written Assessment Inquiry 12.3 (Student Sheet 12.3) TG pp 148-151	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
Physical Science ~ PS3D**

Content Standard 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.

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 13	Aligned as designed	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	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.
Lesson 14	Aligned as designed	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	
Lesson 15	Aligned as designed	Getting Started SG p 155; Inquiry 15.1 SG pp 156-157; Reading: Explaining the Virtual Image SG pp 161-162	
Lesson 16	Aligned as designed	Getting Started SG p 167; Inquiry 16.1 SG pp 168-170; Inquiry 16.2 SG pp 171-174	

**Alignment of Washington 6-8 Science Standards with
STC/MS Light
Physical Science ~ PS3D**

Content Standard 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.

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 17	Aligned as designed	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	TG p 216 Extension 2 provides an opportunity to apply results to a new situation.
Lesson 18	Aligned as designed	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	
Lesson 19	Aligned as designed	Inquiry 19.5 (Student Sheet 19.35); Practice (sample) Written Assessment Inquiry 19.6 (Student Sheet 19.6) TG pp 269-272	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.
Lesson 20	Aligned as designed	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	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
Physical Science ~ PS3D**

Content Standard 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.

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 26	Aligned as designed	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	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
Physical Science ~ PS3E**

Content Standard 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.

Performance Expectation • 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 02	Aligned as designed	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	
Lesson 12	Aligned as designed	Practice (sample) Written Assessment Inquiry 12.3 (Student Sheet 12.3) TG pp 148-151	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.
Lesson 13	Aligned as designed	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	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.
Lesson 26	Aligned as designed	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	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
Physical Science ~ PS3F**

Content Standard

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.

Performance Expectation

- 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 07	Aligned as designed	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	
Lesson 09	Aligned as designed	Introduction SG p 92; Getting Started SG p 93; Inquiry 9.1 SG pp 94-95	The unit/lesson intentionally refers to light and not sound.
Lesson 12	Aligned as designed	Practice (sample) Written Assessment Inquiry 12.3 (Student Sheet 12.3) TG pp 148-151	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.
Lesson 13	Aligned as designed	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	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
Physical Science ~ PS3F**

Content Standard

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.

Performance Expectation

- 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 25	Aligned with modifications (see comments)	Introduction SG p 284; Inquiry 25.1 SG p 286; Inquiry 25.2 SG p 287; Reading: Light Messages SG pp 288-293	Teacher must be intentional about sharing how sound waves travel.
Lesson 25	Aligned as designed	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	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.
Lesson 26	Aligned as designed	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	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
Earth Science ~ ES1A**

Content Standard

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.

Performance Expectation

- 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 05	Aligned as designed	Inquiry 5.3 SG p 53; Reading: Astronomical Shadows SG p 54	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
Life Science ~ LS2C**

Content Standard

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.

Performance Expectation

- 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.

Lesson Number	Alignment	Evidence of Alignment	AlignmentComments
Lesson 11	Aligned as designed	Reading: A Green Engine Driven by the Sun SG pp 127-131	Extension TG p 131 number 1.
Lesson 13	Aligned as designed	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	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.