

## Grade 6 Science Scope & Sequence

<u>First Unit</u>	Textbook & Materials	Supplements	Assessment Options
<b>Introduction to The Scientific Method &amp; Engineering Design</b>	<b>Textbook:</b> Holt Physical Science pages 11-19	This unit is simply an introduction to what scientist do and how they do it. Focus on an introduction rather than a mastery of the concepts. These skills and standards will spiral in throughout the year.  <b>Suggested Activities:</b>  Golf ball/ping pong ball drop lab Bridge Design Paper Airplane/helicopter Penny drop	<b><u>Formative:</u></b> Label the steps to the Science Inquiry Process  <b><u>Summative:</u></b> Scientific Method Assessment (on disc)
<b>Days/Weeks</b>			
Minimum: 5 days Maximum: 8 days			

**Oregon Science Standards: All year long each standard will be incorporated into the scope and sequence.**

### **6.3 Scientific Inquiry**

**6.3S.1** Based on observations and science principles, propose questions or hypotheses that can be examined through scientific investigation. Design and conduct an investigation that uses appropriate tools to collect relevant data.

**6.3S.2** Organize and display relevant data, construct an evidence-based explanation of the results of an investigation, and communicate the conclusions.

**6.3S.3** Explain why if more than one variable changes at the same time in an investigation, the outcome of the investigation may not be clearly attributable to any one variable.

### **6.4 Engineering Design**

**6.4D.1** Define a problem that addresses a need and identify science principles that may be related to possible solutions.

**6.4D.2** Design, construct, and test a possible solution to a defined problem using appropriate tools and materials. Evaluate proposed engineering design solutions to the defined problem.

**6.4D.3** Describe examples of how engineers have created inventions that address human needs and aspirations.

### **Common Core Standards for Literacy in Science – Reading**

**RST.6-8.3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

Vocabulary and Targets in *italics* are introduced during this unit.

<p><b>Critical Content Vocabulary:</b> Question/Problem Hypothesis/Prediction Test/Experiment (materials, procedures) Data Collection (graphs, charts, data tables) Observation/Inference Variable (independent, dependent, control) Conclusion/Analysis</p> <p><b>Common Core Reading Vocabulary:</b> Multistep procedure, experiment</p>	<p><b>Critical Content Learning Targets:</b></p> <ul style="list-style-type: none"><li>• I can explain the steps to the Scientific Method.</li></ul> <p><b>Common Core Reading Learning Targets:</b></p> <ul style="list-style-type: none"><li>• I can follow a multistep procedure when carrying out experiments.</li><li>• I can take measurements while carrying out an experiment.</li></ul>
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Vocabulary and Targets in *italics* are introduced during this unit.

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<u>Second Unit</u>	<b>Textbook &amp; Materials</b>	<b>Supplements</b>	<b>Assessment Options</b>
<b>Metric Measurement</b>	<p><b>Textbook:</b> Holt Physical Science Pages 20-27</p> <p><b>Materials:</b> Metric Ruler</p>	<p>Use activities and/or stations to practice measuring lengths, mass, volume, density, time and temperature.</p> <p>This is an introduction to matter and so just focus on introducing the tools that will be used throughout the following units.</p>	<p><b><u>Formative:</u></b></p> <ul style="list-style-type: none"> <li>• Use Science Snapshots (Length, mass, volume) (on disc)</li> <li>• Use measurement as a data collection tool in inquiries throughout the year.</li> </ul> <p><b><u>Summative:</u></b> Metric Measurement Test (on disc)</p>
<b>Days/Weeks</b>	<p>Graduated cylinders</p> <p>Beaker</p>	<p>Bill Nye: Measurement</p>	
<p>Minimum: 6 days</p> <p>Maximum: 8 days</p>	<p>Triple-beam Balance</p> <p>Meter Stick</p> <p>Thermometer</p> <p>Stop Watch</p>	<p>Triple Beam Balance Practice: <a href="http://www.ohaus.com/input/tutorials/tbb/tbbentry.swf">www.ohaus.com/input/tutorials/tbb/tbbentry.swf</a></p> <p>Virtual Density Lab: <a href="http://www.wv2.unime.it/weblab/mirror/ExplrSci/dswmedia/density.htm">www.wv2.unime.it/weblab/mirror/ExplrSci/dswmedia/density.htm</a></p> <p>Density-Virtual Lab Worksheet (on disc)</p>	

**Oregon Science Standards:**

**6.1 Structure and Function:**

**6.1P.1** Describe physical and chemical properties of matter and how they can be measured.

**Common Core Standards for Literacy in Science - Reading:**

**RST.6-8.3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**RST.6-8.7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

Vocabulary and Targets in *italics* are introduced during this unit.

<p><b>Critical Content Vocabulary:</b>  Mass  Volume  Density  Time  Temperature  Displacement  Meniscus</p> <p><b>Common Core Reading Vocabulary:</b>  Multistep procedure, experiment, flowchart,  diagram, model, graph, table</p>	<p><b>Critical Content Learning Targets:</b></p> <ul style="list-style-type: none"> <li>• I can use a metric ruler or meter stick to measure lengths of objects.</li> <li>• I can use a thermometer to measure in degrees Celsius.</li> <li>• I can read graduated cylinders with differing increments.</li> <li>• I can measure the volume of regular and irregular objects.</li> <li>• I can read a triple-beam balance to the nearest 1/10<sup>th</sup> of a gram.</li> <li>• I can describe density as a relationship between mass and volume.</li> </ul> <p><b>Common Core Reading Learning Targets:</b></p> <ul style="list-style-type: none"> <li>• I can follow a multistep procedure when carrying out experiments.</li> <li>• I can take measurements while carrying out an experiment.</li> <li>• I can identify visual displays of quantitative or technical information (e.g., flowcharts, diagram, model, graph, or table) in a text.</li> </ul>
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Vocabulary and Targets in *italics* are introduced during this unit.

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<u>Third Unit</u>	<b>Textbook &amp; Materials</b>	<b>Supplements</b>	<b>Assessment Options</b>
<b>Properties of Matter</b>	<p><b>Textbook:</b> Holt Physical Science Chapter 2 (Properties) pages 34-51 Chapter 3 (States of Matter) pages 58-73 Chapter 4 (Mixtures) pages 90-97</p> <p><b>Materials:</b> Measurement tools Microscopes</p>	<p><b>Recommended websites and activities:</b> Soda Suspension Demonstration (Diet vs Regular) Float/Sink Lab Floating Lab Separating Mixtures Introductory Labs (Trail Mix, Evaporation, Magnetism, Markers, etc.) Microscope Lab (orange juice, milk, soda) Particle Movement Demo: <a href="http://www.harcourtschool.com/activity/states_of_matter/index.html">www.harcourtschool.com/activity/states_of_matter/index.html</a></p> <p>Hypothesis Format: Use “If _____, then _____, because _____.” as the frame for hypotheses to prepare for high school.</p> <p>Suggest that teacher introduce an atom and its basic structure.</p> <p>Bill Nye: Phases of Matter</p>	<p><b>Formative:</b> Any inquiries done in this section should focus on forming a hypothesis from a teacher provided question.</p> <p><b>Summative:</b></p> <ul style="list-style-type: none"> <li>• States of Matter &amp; Phase Change</li> <li>• Properties of Matter</li> <li>• Mixtures &amp; Solutions (on disc)</li> </ul>
<b>Days/Weeks</b>			

**Oregon Science Standards:**

**6.1 Structure and Function**

**6.1P.1** Describe physical and chemical properties of matter and how they can be measured.

**Common Core Standards for Literacy in Science - Reading:**

**RST.6-8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

**Common Core Standards for Literacy in Science - Writing:**

**WHST.6-8.1** Write arguments focused on discipline-specific content.

Vocabulary and Targets in *italics* are introduced during this unit.

**Critical Content Vocabulary:****Physical Properties:**

States of matter (solid, liquid, gas, plasma)

Density (mass, volume, density)

Suspension (float, sink, suspend)

Solubility (solution)

Mixture (heterogeneous, homogeneous)

Magnetic, Malleability, ductility, conductivity

Color, texture, odor, hardness, luster

**Chemical Properties:**

Flammability, corrosiveness, explosiveness, oxidation

**Common Core Reading Vocabulary:**

Central idea, summary, opinion

**Common Core Writing Vocabulary:**

Argument, evidence, hypothesis

**Critical Content Learning Targets:**

- I can describe the ways particles act in each state of matter.
- I can determine the density of an object and predict whether it will float, sink, or suspend in water.
- I can explain the difference between physical and chemical properties of matter.
- I can classify matter based on their physical and chemical properties.
- I can describe the differences between heterogeneous and homogeneous mixtures.
- I can compare and contrast mixtures and solutions.
- I can write a hypothesis to a teacher provided question/problem.

**Common Core Reading Learning Targets:**

- I can define the central idea (the main point in a piece of writing).
- I can compose a summary stating the key information, central idea, or conclusions of a text without adding my own prior knowledge or opinions.

**Common Core Writing Learning Targets:**

- I can support my argument with evidence.

## Grade 6 Science Scope & Sequence

<u>Fourth Unit</u>	<b>Textbook &amp; Materials</b>	<b>Supplements</b>	<b>Assessment Options</b>
<b>Forms of Energy</b>	<b>Textbook:</b> Holt Physical Science Chapter 9 (Energy) pages 214-221 Optional: Chapter 21 (Sound) pages 532-544 Chapter 22 (Light) pages 562-574	Energy Trust of Oregon: Energy Wise Kits  This is an introduction to energy and so just focus on introducing the vocabulary that will be used throughout the following units.  <b>Activity Ideas:</b> Vocabulary Picture Flip Book Power point Presentation Matching and Labeling Activities	<b><u>Formative:</u></b> Formative assessments that focus on vocabulary terms with matching and labeling.  <b><u>Summative:</u></b> Energy Test (on disc)
<b>Days/Weeks</b>			
Minimum: 3 days Maximum: 5 days			

**Oregon Science Standards:**

**6.2 Interaction and Change**

**6.1P.2** Compare and contrast the characteristic properties of forms of energy.

**Common Core Standards for Literacy in Science - Reading:**

**RST. 6-8.4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

**RST. 6-8.1** Cite specific textual evidence to support analysis of science and technical terms.

Vocabulary and Targets in *italics* are introduced during this unit.

**Critical Content Vocabulary:**

Work  
Energy  
Kinetic  
Potential  
Mechanical  
Thermal  
Chemical  
Nuclear  
Electrical  
Light  
Sound  
Properties  
Electromagnetic Spectrum

**Common Core Reading Vocabulary:**

Content specific vocabulary, textual evidence, explicit, analysis.

**Critical Content Learning Targets:**

- I can identify different forms of energy.
- I can classify different types of energy.
- I can compare kinetic and potential energy.
- I can explain the relationship between energy and work.

**Common Core Reading Learning Targets:**

- I can identify symbols, key terms, and words or phrases.
- I can use various strategies to determine the meaning of symbols, key terms, and words or phrases in a text.
- I can read closely and find explicit (right there) information in a science or technical text.



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<u>Fifth Unit</u>	Textbook & Materials	Supplements	Assessment Options
<b>Interaction of Energy and Matter (Waves)</b>	<p><b>Textbook:</b> Holt Physical Science Chapter 20 (Waves) pages 508 - 525</p> <p><b>Recommended Materials:</b> Slinky Jump Rope Rope</p>	<p>Teach waves through light and sound from previous unit.</p> <p>Bill Nye: Waves</p> <p><b>Inquiry Ideas:</b> Sound Lab:</p> <ul style="list-style-type: none"> <li>• Attach string to two cups.</li> <li>• Vary string length, string material, cup material, etc...</li> </ul> <p>Labs Located in textbook pages 706 – 709.</p>	<p><b><u>Formative:</u></b> Any inquiries done in this unit should focus on controls and variables.</p> <p><b><u>Summative</u></b> Waves Test (on disc)</p>
<b>Days/Weeks</b>			
<p>Minimum: 5 days</p> <p>Maximum: 8 days</p>			
<p><b>Oregon Science Standards:</b> <b><u>6.2 Interaction and Change</u></b> 6.2P.1 Describe and compare types and properties of waves and explain how they interact with matter.</p> <p><b>Common Core Standards for Literacy in Science - Reading:</b> RST.6-8.9 Compare and contrast the information gained from experiments (or other sources) with that gained from reading a text on the same topic.</p>			

Vocabulary and Targets in *italics* are introduced during this unit.

**Critical Content Vocabulary:**

Diffraction  
Reflection  
Refraction  
Resonance  
Wave Length  
Frequency  
Amplitude  
Crest  
Trough  
Period  
Seismic Waves  
Sound Waves  
Water Waves  
Electromagnetic Radiation  
Transverse Waves  
Longitudinal Waves

**Common Core Reading Vocabulary:**

Compare, contrast

**Critical Content Learning Targets:**

- I can explain the difference between transverse and longitudinal waves.
- I can identify four wave properties. (amplitude, wave length, frequency and wave speed)
- I can explain how amplitude and frequency are related to the energy of a wave.
- I can describe reflection, refraction, and diffraction.
- I can give real life examples of waves that occur in our natural environment. (seismic, echo location, ultrasound, radiation,...)

**Common Core Reading Learning Targets:**

- I can compare (analyze the similarities) information gained from experiments (or other sources) with information gained from reading a text on the same topic.
- I can contrast (analyze the differences) information gained from experiments (or other sources) with information gained from reading a text on the same topic.

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<u>Sixth Unit</u>	Textbook & Materials	Supplements	Assessment Options
<b>Energy: Electricity &amp; Magnetism</b>	<b>Textbook:</b> Holt Physical Science Chapter 17 (Electricity) pages 420-445 Chapter 18 (Electromagnetism) pages 452 - 473	Bill Nye: Static Electricity Bill Nye: Electrical Current Bill Nye: Magnetism Bill Nye: Electricity  <b>Recommended Materials:</b> Magnets Light Bulbs Batteries Wire Foil Wire Cutters	<b><u>Formative:</u></b> Inquiries done in this unit should focus on data collection.  <b><u>Summative:</u></b> <ul style="list-style-type: none"> <li>• Inquiry Lab: Electromagnets (on disc)</li> <li>• Teacher Created Test</li> </ul>
<b>Days/Weeks</b>			
Minimum: 8 days Maximum: 10 days			

**Oregon Science Standards:**

**6.2 Interaction and Change**

**6.2P.2** Describe the relationships between: electricity and magnetism, static and current electricity, and series and parallel electrical circuits.

**Common Core Standards for Literacy in Science - Reading:**

**RST.6-8.9** Compare and contrast the information gained from experiments (or other sources) with that gained from reading a text on the same topic.

**Common Core Standards for Literacy in Science - Writing:**

**WHST.6-8.2** Write informative/explanatory texts, including the narration of scientific procedures/experiments, or technical processes.

- Develop the topic with relevant, well-chosen facts, definitions, concrete details, or other information and examples.
- Use precise language and domain-specific vocabulary to inform about or explain the topic.

Vocabulary and Targets in *italics* are introduced during this unit.

**Critical Content Vocabulary:**

Ampere (amp)  
Conductivity  
Electromagnetic Field  
Open/Closed Circuit  
Switch  
Voltage  
Static Electricity  
Current Electricity  
Series Circuit  
Parallel Circuit  
Electricity  
Magnetism

**Common Core Reading Vocabulary:**

Compare, contrast

**Common Core Writing Vocabulary:**

Inform, explain, procedure, key word, relevant

**Critical Content Learning Targets:**

- I can describe the relationship between electricity and magnetism.
- I can give examples of static electricity.
- I can describe an electric current.
- I can compare and contrast static electricity and current electricity.
- I can compare and contrast series and parallel electrical circuits.
- I can give real life examples of electromagnetism.

**Common Core Reading Learning Targets:**

- I can compare (analyze the similarities) information gained from experiments (or other sources) with information gained from reading a text on the same topic.
- I can contrast (analyze the differences) information gained from experiments (or other sources) with information gained from reading a text on the same topic.

**Common Core Writing Learning Targets:**

- I can write one or two informational paragraphs including key words, relevant details and examples.

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<u>Seventh Unit</u>	Textbook & Materials	Supplements	Assessment Options
<b>Cells</b>	<p><b>Textbook:</b> Holt Lift Science Book Chapter 3 pages 54 - 75</p>	<p>Bill Nye: Cells</p> <p>Activity with microscopes: Onion vs. Cheek Cell Lab (Plant vs. Animal)</p> <p>Cell models activities</p>	<p><b><u>Formative</u></b> Labs in this unit should focus on observation.</p> <p><b><u>Summative:</u></b></p> <ul style="list-style-type: none"> <li>• Venn Diagram Or Graphic Organizer on Plant vs Animal Cell Organelles.</li> <li>• Summary using Key Words.</li> <li>• Cell Parts Quiz (on disc)</li> </ul>
<b>Days/Weeks</b>	<p><b>Materials:</b> Microscopes Slides</p>		
<p>Minimum: 4 days</p> <p>Maximum: 7 days</p>			

**Oregon Science Standards:**

**6.1 Structure and Function**

**6.1L.1** Compare and contrast the types and components of cells. Describe the functions and relative complexity of cells, tissues, organs, and organ systems.

**Common Core Standards for Literacy in Science - Reading:**

**RST.6-8.9** Compare and contrast the information gained from experiments (or other sources) with that gained from reading a text on the same topic.

**Common Core Standards for Literacy in Science - Writing:**

**WHST.6-8.2** Write informative/explanatory texts, including the narration of scientific procedures/experiments, or technical processes.

- Develop the topic with relevant, well-chosen facts, definitions, concrete details, or other information and examples.
- Use precise language and domain-specific vocabulary to inform about or explain the topic.

Vocabulary and Targets in *italics* are introduced during this unit.

**Critical Content Vocabulary:**

cell  
prokaryotic/eukaryotic  
organism  
organelle

**Plant Cell (Only):**

Cell wall  
Chlorophyll/Chloroplasts

**Animal Cells & Plant Cells:**

Vacuole  
Nucleus  
Cell membrane  
Mitochondria  
Endoplasmic reticulum  
Ribosome  
Golgi Body  
Cytoplasm

**Common Core Reading Vocabulary:**

Compare, contrast

**Common Core Writing Vocabulary:**

Inform, explain, procedure, key word, relevant

**Critical Content Learning Targets:**

- I can compare and contrast plant and animal cells.
- I can describe cell functions that are similar in all living things (reproduction, movement of materials in/out, etc...).
- I can describe how cells form tissues.

**Common Core Reading Learning Targets:**

- I can compare (analyze the similarities) information gained from experiments (or other sources) with information gained from reading a text on the same topic.
- I can contrast (analyze the differences) information gained from experiments (or other sources) with information gained from reading a text on the same topic.

**Common Core Writing Learning Targets:**

- I can write one or two informational paragraphs including key words, relevant details and examples.

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<u>Eighth Unit</u>	Textbook & Materials	Supplements	Assessment Options
<b>Body Systems</b>	<p><b>Textbook:</b> Holt Life Science</p> <ul style="list-style-type: none"> <li>• Chapter 22 (Organization &amp; Structure) pages 520 – 538</li> <li>• Chapter 23 (Circulation &amp; Respiration) pages 544 – 560</li> <li>• Chapter 24 (Digestive &amp; Urinary Systems) pages 566 – 580</li> <li>• Chapter 25 (Communication &amp; Control) pages 586 – 604</li> <li>• Chapter 26 (Reproduction &amp; Development) pages 616 – 625</li> <li>• Chapter 27 (Body Defenses &amp; Disease) pages 634 – 648</li> </ul>	<p><b>Activities/Inquiries with each body system as a focus:</b></p> <p>Check heart rate after activity Tape a joint and do basic tasks Breathe through straws to represent non-smoker, smoker, and emphysema. Squeeze clothespin in 1-minute over 3 trials to measure muscle strength and fatigue. Plastic cup lab to test nervous system. Oatmeal demonstration for the digestive system. (See Disc For Ideas Above)</p> <p>Bill Nye: Blood &amp; Circulation, Bones &amp; Muscles, Digestion, Heart, Respiration, Brain, and Skin</p>	<p><b><u>Formative:</u></b> Inquiry in this section should focus on conclusion and analysis.</p> <p><b><u>Summative:</u></b></p> <ul style="list-style-type: none"> <li>• Human Body Assessment (on disc)</li> <li>• Human Body Corporation Writing Piece (on disc)</li> </ul>
<b>Days/Weeks</b>			
<p>Minimum: 10 days</p> <p>Maximum: 15 days</p>			
<p><b>Oregon Science Standards:</b> <b><u>6.2 Interaction and Change</u></b> <b>6.2L.1</b> Describe the relationships and interactions between and among cells, tissues, organs, and organ systems.</p> <p><b>Common Core Standards for Literacy in Science - Reading:</b> <b>RST. 6-8.2</b> Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.</p> <p><b>Common Core Standards for Literacy in Science - Writing:</b> <b>WHST.6-8.1</b> Write arguments focused on discipline-specific content. <b>WHST.6-8.4</b> Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>			

Vocabulary and Targets in *italics* are introduced during this unit.

**Critical Content Vocabulary:**

Circulatory system  
Digestive system  
Endocrine system  
Excretory system  
Immune system  
Muscular system  
Nervous system  
Reproductive system  
Respiratory system  
Skeletal system

**Common Core Reading Vocabulary:**

Central idea, summary, opinion

**Common Core Writing Vocabulary:**

Argument, evidence, writing style, purpose, task, audience

**Critical Content Learning Targets:**

- I can explain that living things are organized from cell to system. (cell, tissue, organ, organ system)
- I can describe the major function and organs of each body system.
- I can explain how organ systems interact and change based on the activities of the organism.

**Common Core Reading Learning Targets:**

- I can define the central idea (the main point in a piece of writing).
- I can compose a summary stating the key information, central idea, or conclusions of a text without adding my own prior knowledge or opinions.

**Common Core Writing Learning Targets:**

- I can support my argument with evidence.
- I can identify the style of writing that best fits my task, purpose, and audience.
- I can use organizational/formatting structures (graphic organizers) to develop my writing ideas.



## Grade 6 Science Scope & Sequence

<u>Ninth Unit</u>	Textbook & Materials	Supplements	Assessment Options
<b>Solar System &amp; Beyond</b>	<p><b>Textbook:</b> Holt Earth Science Chapter 19 pages 508 – 529 Chapter 20 pages 536 – 561 Chapter 21 pages 568 – 590</p>	<p><b>Suggested Activities:</b> Process Chart for solar system objects Posters of solar system (include all debris) Brochures Models Flipbook (on disc)</p>	<p><b>Formative:</b> Teacher created exit cards (tickets out the door) focused on daily learning targets.</p>
<b>Days/Weeks</b>	<p>Please use updated resources when teaching this topic. The text is a good starting point, but outdated factually. (See disc or use the internet.)</p>	<p>Bill Nye: Planets and Moons, The Universe, Outer Space</p>	<p><b>Summative:</b></p> <ul style="list-style-type: none"> <li>• Solar System Activity Chart (on disc)</li> <li>• Solar System and Beyond Test (on disc)</li> </ul>
<p>Minimum: 5 days Maximum: 8 days</p>			
<p><b>Oregon Science Standards:</b> <b><u>6.1 Structure and Function</u></b> <b>6.1E.2</b> Describe the properties of objects in the solar system. Describe and compare the position of the sun within the solar system, galaxy, and universe.</p> <p><b>Common Core Standards for Literacy in Science - Reading:</b> <b>RST.6-8.1</b> Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.</p> <p><b>Common Core Standards for Literacy in Science - Writing:</b> <b>WHST.6-8.7</b> Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. <b>WHST. 6-8.8</b> Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</p>			

Vocabulary and Targets in *italics* are introduced during this unit.

**Critical Content Vocabulary:**

Meteor/meteorite  
Oort Cloud  
Kuiper Belt  
Planets  
Dwarf planets  
Moons  
Asteroid/Belt  
Comets  
Milky Way  
Galaxy  
Universe  
Star  
Rotation  
Revolution  
Orbit

**Common Core Reading Vocabulary:**

Evidence, cite, inference

**Common Core Writing Vocabulary:**

Research, central question, source, credibility, search term, accuracy, plagiarism, paraphrase, citation

**Critical Content Learning Targets:**

- I can order the planets and other objects within our solar system.
- I can distinguish between meteors, meteoroids, meteorites, and asteroids.
- I can compare and contrast the composition of the inner and outer planets.
- I can describe and compare the position of the sun within the solar system, galaxy, and universe.
- I can describe the sun as the energy source within our solar system.
- I can explain the position of the Earth within the universe.

**Common Core Reading Learning Targets:**

- I can read closely and find explicit (right there) information in a science or technical text.
- I can cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**Common Core Writing Learning Targets:**

- I can focus my research around a question that is provided or determine my own research worthy question.
- I can choose several sources and gather information to answer my question.
- I can determine the credibility and accuracy of a source by reviewing who wrote it, when it was written, and why it was written.
- I can follow a standard format for citation to create a bibliography for my sources.

## Grade 6 Science Scope & Sequence

<u>Tenth</u> Unit	Textbook & Materials	Supplements	Assessment Options
<b>Weather &amp; Land Forms</b>	<b>Textbook:</b> Holt Earth Science Chapter 11 (Water Cycle & Watersheds) pages 270 – 284 Chapter 16 (Weather) pages 420 – 429 Chapter 17 (Climate) pages 450 - 472	<b>Suggested Activities:</b> Google Earth Water Cycle Writing Assignment: Life of a Raindrop Illustrate and label rain shadow effect. (on disc) Steps of the Water Cycle & Erosion & River Systems Assignment (on disc) The Rain Shadow Effect Assignment (on disc) Outdoor School Lessons Website: <a href="http://www.mesd.k12.or.us/os/outdoorschool/welcome.html">www.mesd.k12.or.us/os/outdoorschool/welcome.html</a>  Bill Nye: Weather Bill Nye: Climate	<b><u>Formative:</u></b> <ul style="list-style-type: none"> <li>• Any activity from list to left.</li> </ul> <b><u>Summative:</u></b> <ul style="list-style-type: none"> <li>• Water Cycle &amp; Landforms Test (on disc)</li> <li>• Writing piece</li> </ul>
<b>Days/Weeks</b>			
Minimum: 5 days Maximum: 8 days			

**Oregon Science Standards:**

**6.2 Interaction and Change**

**6.2E.1** Explain the water cycle and the relationship to landforms and weather.

**Common Core Standards for Literacy in Science - Reading:**

**RST.6-8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

**RST. 6-8.4** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

**Common Core Standards for Literacy in Science - Writing:**

**WHST.6-8.4** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Vocabulary and Targets in *italics* are introduced during this unit.

**Critical Content Vocabulary:**

Altitude  
Biome  
Elevation  
Latitude  
Weather  
Sedimentation  
Solubility  
Thermal  
Transpiration  
Temperature  
Evaporation  
Condensation  
Cloud formation/nucleation  
Precipitation  
Run-off  
Rain shadow  
Climate  
Dew point  
Humidity  
Air pressure

**Common Core Reading Vocabulary:**

Central idea, summary, opinion, content specific vocabulary.

**Common Core Writing Vocabulary:**

writing style, purpose, task, audience

**Critical Content Learning Targets:**

- I can describe each stage within the water cycle.
- I can describe the different biomes found in each climate zone.
- I can identify the factors that determine weather.
- I can explain the difference between weather and climate.
- I can explain how landforms affect weather patterns and climate.

**Common Core Reading Learning Targets:**

- I can define the central idea (the main point in a piece of writing).
- I can compose a summary stating the key information, central idea, or conclusions of a text without adding my own prior knowledge or opinions.
- I can identify symbols, key terms, and words or phrases.
- I can use various strategies to determine the meaning of symbols, key terms, and words or phrases in a text.

**Common Core Writing Learning Targets:**

- I can identify the style of writing that best fits my task, purpose, and audience.
- I can use organizational/formatting structures (graphic organizers) to develop my writing ideas.

## Grade 6 Science Scope & Sequence

<u>Eleventh Unit</u>	Textbook & Materials	Supplements	Assessment Options
<b>Ecosystems</b>	<b>Textbook:</b> Holt Life Science Chapter 18 pages 432 – 450 Chapter 20 pages 472 - 490	<b>Suggested Activities:</b> Outdoor School Lesson Websites: <a href="http://www.mesd.k12.or.us/os/outdoorschool/welcome.html">www.mesd.k12.or.us/os/outdoorschool/welcome.html</a> Science Investigations (Unit 3: Adaptations to Environments pages 39-47) (pdf on disc)  Bill Nye: Food Web Bill Nye: Biomes Bill Nye: Populations	<b><u>Formative</u></b> Food Web for assigned biome.  <b><u>Summative</u></b> Inquiry lab in this section should have an engineering design problem. Example: Engineering Bridges Activity (on disc)
<b>Days/Weeks</b>			
Minimum: 8 days Maximum: 12 days			
<p><b>Oregon Science Standards:</b>  <b><u>6.2 Interaction and Change</u></b>  <b>6.2L.2</b> Explain how individual organisms and populations in an ecosystem interact and how changes in populations are related to resources.</p> <p><b>Common Core Standards for Literacy in Science – Reading</b>  <b>RST.6-8.3</b> Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.</p> <p><b>Common Core Standards for Literacy in Science - Writing:</b>  <b>WHST.6-8.4</b> Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>			

Vocabulary and Targets in *italics* are introduced during this unit.

**Critical Content Vocabulary:**

Energy Pyramid  
Niche  
Mutualism  
Symbiosis  
Carrying capacity  
Species  
Limiting factors  
Habitat  
Herbivore/Omnivore/Carnivore  
Food Chain/Web  
Predator/Prey  
Producer/Consumer  
Parasite/Host  
Biotic/Abiotic  
Ecosystem

**Common Core Reading Vocabulary:**

Multistep procedure, experiment

**Common Core Writing Vocabulary:**

writing style, purpose, task, audience

**Critical Content Learning Targets:**

- I can explain how organisms, populations, communities, and ecosystems are related.
- I can describe the functions of producers, consumers, and decomposers in an ecosystem.
- I can explain how energy flows through a food web.
- I can distinguish between an organism's habitat and niche.
- I can give examples of predators and prey.
- I can describe the relationships between various organisms (predator/prey, producer/consumer, parasite/host).
- I can give real life examples of relationships between living organisms (beneficial, harmful, competitive, shared).
- I can describe how changes in populations are related to the resources found within an ecosystem.
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**Common Core Reading Learning Targets:**

- I can follow a multistep procedure when carrying out experiments.
- I can take measurements while carrying out an experiment.

**Common Core Writing Learning Targets:**

- I can identify the style of writing that best fits my task, purpose, and audience.
- I can use organizational/formatting structures (graphic organizers) to develop my writing ideas.