

## Regents-Level Earth Science Curriculum Map

NYS Learning/Core Standards	Content (What needs to be taught?)	Curriculum Materials Used	(All) Assessments Used (Daily/Weekly/Benchmarks)	Time Line
<p>ST 1,2, 4</p> <p>ST 1,4</p> <p>ST 1,2,4, 7</p> <p>ST 1,2,4,6, 7</p> <p>ST 1,4,6, 7</p> <p>ST 1,2,6, 4</p>	<p>Observations &amp; Inferences - know differences</p> <p>Scientific Problem Solving - using equipment properly</p> <p>Scientific Measuring &amp; Calculations - Mass, Weight, Length, Area, Volume, Time, Density</p> <p>Density - measure &amp; calculate</p> <p>Graphing Skills - Direct/Inverse Relationships, Cyclic changes</p> <p>Proper use of the Earth Science Reference Tables</p>	<p>- AMSCO Earth Science</p> <p>- The Physical Setting textbook</p> <p>- Earth Science Reference Tables</p> <p>- Mill's Notes Packet</p> <p>- Lab Manual developed by Mike Breed &amp; Phil Brooks</p> <p>- Wizard Testmaker software</p> <p>- PowerPoint notes</p> <p>- Regents Review Book - title depends upon year</p> <p>- Various videos <a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a></p> <p>- SUNY Oneonta Earth Science Listserv</p> <p>- Smart Classroom Response System (SRP-XE-32)</p> <p>- Document Camera/Projector</p> <p>- SmartBoard</p> <p>- "Let's Get Down To... Earth" podcast from iTunes Store</p> <p>- Classroom Seismograph &amp; roof-mounted weather station</p>	<p>Tests - all tests throughout the year are written using the Wizard Testmaker software</p> <p>Quizzes - Wizard Testmaker</p> <p>Homework assignments from textbook &amp; review book</p> <p>Test review packets created with Wizard Testmaker</p> <p>Labs -</p> <ul style="list-style-type: none"> <li>Graphing Skills</li> <li>Observations &amp; Inferences</li> <li>Scientific Method</li> <li>Density</li> <li>Metric Measurement</li> <li>Lab Safety</li> <li>Percentage Error</li> </ul>	<p>September</p>
<p>ST 1,3,4,6, 7</p>	<p>Models of the Earth/Earth's Dimensions</p>	<p>- AMSCO Earth Science</p> <p>- The Physical Setting</p>	<p>Tests</p>	<p>October</p>

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ST 1,4,7	Eratosthenes Method for Circumference	textbook - Earth Science Reference Tables - Mill's Notes Packet	Quizzes  Homework assignments from textbook & review book	
ST 1,2,4, 6	Latitude & Longitude	- Lab Manual developed by Mike Breed & Phil Brooks	Test review packets created with Wizard Testmaker	
ST 1,2,4, 6	Time Zones	- Wizard Testmaker software	Labs -	
ST 1,2,4, 6	Field Maps, Isolines, Contour Lines	- PowerPoint notes - Regents Review Book - title depends upon year - Various videos <a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a>	Latitude & Longitude Earth's Shape USGS Topographic Maps Local Maps Drawing Map Profiles Field Mapping Eratosthenes Circumference	
ST 1,2,4, 6	Topographic Maps, Gradients, Profiles	- SUNY Oneonta Earth Science Listserv - Smart Classroom Response System (SRP-XE-32) - Document Camera/Projector - SmartBoard - "Let's Get Down To... Earth" podcast from iTunes Store - Classroom Seismograph & roof-mounted weather station		
ST 1,2,3,4,6, 7	Properties of Minerals	- AMSCO Earth Science	Tests	Late October/Early November
ST 1,2,3,4,6, 7	Mineral Identification Tests	- The Physical Setting textbook - Earth Science	Quizzes	

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		<p>Reference Tables</p> <ul style="list-style-type: none"> <li>- Mill's Notes Packet</li> <li>- Lab Manual developed by Mike Breed &amp; Phil Brooks</li> <li>- Wizard Testmaker software</li> <li>- PowerPoint notes</li> <li>- Regents Review Book - title depends upon year</li> <li>- Various videos</li> <li><a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a></li> <li>- SUNY Oneonta Earth Science Listserv</li> <li>- Smart Classroom Response System (SRP-XE-32)</li> <li>- Document Camera/Projector</li> <li>- SmartBoard</li> <li>- "Let's Get Down To... Earth" podcast from iTunes Store</li> <li>- Classroom Seismograph &amp; roof-mounted weather station</li> </ul>	<p>Homework assignments from textbook &amp; review book</p> <p>Test review packets created with Wizard Testmaker</p> <p>Labs - Mineral Identification Testing</p>	
ST 1,2,4, 6 Performance Indicators: 3.1a-c	Sedimentary Rocks - classification, origin, use of reference tables	- AMSCO Earth Science - The Physical Setting textbook - Earth Science Reference Tables - Mill's Notes Packet	Tests  Quizzes	November
ST 1,2,4 6	Metamorphic Rocks -		Homework assignments from	

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ST 1,2,4, 6	<p>classification, origin, use of reference tables</p> <p>Igneous Rocks - classification, origin, use of reference tables</p>	<ul style="list-style-type: none"> <li>- Lab Manual developed by Mike Breed &amp; Phil Brooks</li> <li>- Wizard Testmaker software</li> <li>- PowerPoint notes</li> <li>- Regents Review Book - title depends upon year</li> <li>- Various videos</li> </ul>	<p>textbook &amp; review book</p> <p>Test review packets created with Wizard Testmaker</p>	
ST 1,2,3,4, 7	Use of rocks by humans	<ul style="list-style-type: none"> <li>- SUNY Oneonta Earth Science Listserv</li> </ul>	<p>Labs -</p> <ul style="list-style-type: none"> <li>Sedimentary Rock ID</li> <li>Metamorphic Rock ID</li> <li>Igneous Rock ID</li> </ul>	
ST 1,2,4, 6	Rock Cycle	<ul style="list-style-type: none"> <li>- Various videos</li> </ul>		
ST 1,2,3,4, 7	Earth's Resources	<p><a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a></p> <ul style="list-style-type: none"> <li>- Smart Classroom Response System (SRP-XE-32)</li> <li>- Document Camera/Projector</li> <li>- SmartBoard</li> <li>- "Let's Get Down To... Earth" podcast from iTunes Store</li> <li>- Classroom Seismograph &amp; roof-mounted weather station</li> </ul>		
ST 1,2,3,4,6, 7	<p>Plate Tectonics Unit</p> <ul style="list-style-type: none"> <li>- Patterns of Crustal Activity</li> <li>- Earth's Lithospheric Plates</li> <li>- Earthquakes &amp; Volcanoes</li> <li>- Theory of Plate Tectonics</li> <li>- Evidence for Plate Tectonics Theory</li> </ul>	<ul style="list-style-type: none"> <li>- AMSCO Earth Science</li> <li>- The Physical Setting textbook</li> <li>- Earth Science Reference Tables</li> <li>- Mill's Notes Packet</li> <li>- Lab Manual developed by Mike Breed &amp; Phil</li> </ul>	<p>Tests</p> <p>Quizzes</p> <p>Homework assignments from textbook &amp; review book</p>	December

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	<ul style="list-style-type: none"> <li>- Earth's Layers</li> <li>- Reading seismograms</li> <li>- Using Reference Tables to find epicenter distances, p-wave and s-wave travel times, origin times</li> <li>- Mountain formation</li> <li>- Tectonic hot spots</li> <li>- Sea-floor spreading</li> <li>- Types of plate boundaries</li> <li>- Geologic hazards</li> </ul>	<p>Brooks</p> <ul style="list-style-type: none"> <li>- Wizard Testmaker software</li> <li>- PowerPoint notes</li> <li>- Regents Review Book - title depends upon year</li> <li>- Various videos</li> <li><a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a></li> <li>- SUNY Oneonta Earth Science Listserv</li> <li>- Smart Classroom Response System (SRP-XE-32)</li> <li>- Document Camera/Projector</li> <li>- SmartBoard</li> <li>- "Let's Get Down To... Earth" podcast from iTunes Store</li> <li>- Classroom Seismograph &amp; roof-mounted weather station</li> </ul>	<p>Test review packets created with Wizard Testmaker</p> <p>Labs -</p> <ul style="list-style-type: none"> <li>Continental Drift</li> <li>The Rock Cycle</li> <li>NYS Landscape Regions</li> <li>Plate Boundaries</li> <li>Finding/Plotting Epicenters</li> <li>Tsunamis</li> </ul>	
ST 1,2,4, 6	Weathering & Erosion Defined	<ul style="list-style-type: none"> <li>- AMSCO Earth Science</li> <li>- The Physical Setting textbook</li> </ul>	Tests	January
ST 1,4,6 7	<p>Deposition</p> <ul style="list-style-type: none"> <li>- Rivers &amp; Streams</li> <li>- Wind</li> <li>- Glaciers</li> <li>- Mass Movements</li> </ul>	<ul style="list-style-type: none"> <li>- Earth Science Reference Tables</li> <li>- Mill's Notes Packet</li> <li>- Lab Manual developed by Mike Breed &amp; Phil Brooks</li> </ul>	<p>Quizzes</p> <p>Homework assignments from textbook &amp; review book</p>	
ST 1,4,6 7	Landscapes of New York State	<ul style="list-style-type: none"> <li>- Wizard Testmaker</li> </ul>	Test review packets created	

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		<p>software</p> <ul style="list-style-type: none"> <li>- PowerPoint notes</li> <li>- Regents Review Book - title depends upon year</li> <li>- Various videos</li> <li><a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a></li> <li>- SUNY Oneonta Earth Science Listserv</li> <li>- Smart Classroom Response System (SRP-XE-32)</li> <li>- Document Camera/Projector</li> <li>- SmartBoard</li> <li>- "Let's Get Down To... Earth" podcast from iTunes Store</li> <li>- Classroom Seismograph &amp; roof-mounted weather station</li> </ul>	<p>with Wizard Testmaker</p> <p>Labs -</p> <ul style="list-style-type: none"> <li>Mechanical weathering</li> <li>Chemical weathering</li> <li>Sediment Settling Times</li> <li>Drainage Patterns</li> <li>Stream Discharge</li> </ul>	
ST 1,6,7,4	<p>Groundwater -</p> <ul style="list-style-type: none"> <li>- Factors affecting porosity, permeability, and capillarity</li> <li>- Aquifers, groundwater pollution, artesian wells</li> </ul>	<ul style="list-style-type: none"> <li>- AMSCO Earth Science</li> <li>- The Physical Setting textbook</li> <li>- Earth Science Reference Tables</li> <li>- Mill's Notes Packet</li> <li>- Lab Manual developed by Mike Breed &amp; Phil Brooks</li> </ul>	<p>Tests</p> <p>Quizzes</p> <p>Homework assignments from textbook &amp; review book</p>	Early February
ST 1,4,6,7	<p>Coastal Processes/Oceanography -</p> <ul style="list-style-type: none"> <li>- Beach erosion/depositional patterns</li> <li>- Ocean currents as outlined on</li> </ul>	<ul style="list-style-type: none"> <li>- Wizard Testmaker software</li> <li>- PowerPoint notes</li> </ul>	<p>Test review packets created with Wizard Testmaker</p> <p>Labs -</p>	

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<p>ST 1,2,4,6,7</p>	<p>reference tables            - Tides and coastal changes            - Shoreline management and environmental impacts</p> <p>Meteorology -            - Methods of heat transfer (conduction, convection, radiation) and factors affecting their rates            - Dewpoint, humidity, cloud formation            - Measuring weather variables such as air pressure, temperature, dewpoint, wind speed, humidity, etc.            - Reading and drawing station models</p>	<p>- Regents Review Book - title depends upon year            - Various videos  <a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a>            - SUNY Oneonta Earth Science Listserv            - Smart Classroom Response System (SRP-XE-32)            - Document Camera/Projector            - SmartBoard            - "Let's Get Down To... Earth" podcast from iTunes Store            - Classroom Seismograph &amp; roof-mounted weather station</p> <p>- AMSCO Earth Science            - The Physical Setting textbook            - Earth Science Reference Tables            - Mill's Notes Packet            - Lab Manual developed by Mike Breed &amp; Phil Brooks            - Wizard Testmaker software            - PowerPoint notes            - Regents Review Book - title depends upon year</p>	<p>Stream Divides &amp; River Systems            Ocean water vs. Fresh Water</p> <p>Tests</p> <p>Quizzes</p> <p>Homework assignments from textbook &amp; review book</p> <p>Test review packets created with Wizard Testmaker</p> <p>Labs -            Absorption &amp; Radiation of Energy</p>	<p>Mid- February – mid March</p>
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## Regents-Level Earth Science Curriculum Map

<p>ST 1,2,4, 6</p>	<ul style="list-style-type: none"> <li>- Weather patterns &amp; synoptic weather maps</li> <li>- Mapping weather variables (isolines, isotherms, isobars, etc.)</li> <li>- Air mass and frontal boundaries (cold fronts, warm fronts, occluded fronts, stationary fronts, continental and maritime air masses, tropical, arctic, and polar air masses)</li> <li>- Extreme weather (hurricanes, blizzards, tornadoes, sandstorms)</li> <li>- Factors affecting climate (proximity to large bodies of water, mountain ranges, etc.)</li> </ul> <p>Astronomy -</p> <ul style="list-style-type: none"> <li>- Celestial coordinte systems (altitude &amp; azimuth)</li> <li>- Gravity &amp; inertia</li> <li>- Earth's rotation and its observable effects on apparent celestial motions of the stars, the Moon, the Sun, and planets)</li> <li>- The Solar System and its components</li> <li>- Keplar's 3 Laws of Planetary Motion</li> <li>- Earth's revolution around the Sun and its effects</li> </ul>	<ul style="list-style-type: none"> <li>- Various videos <a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a></li> <li>- SUNY Oneonta Earth Science Listserv</li> <li>- Smart Classroom Response System (SRP-XE-32)</li> <li>- Document Camera/Projector</li> <li>- SmartBoard</li> <li>- "Let's Get Down To... Earth" podcast from iTunes Store</li> <li>- Classroom Seismograph &amp; roof-mounted weather station</li> </ul> <p>- AMSCO Earth Science</p> <ul style="list-style-type: none"> <li>- The Physical Setting textbook</li> <li>- Earth Science Reference Tables</li> <li>- Mill's Notes Packet</li> <li>- Lab Manual developed by Mike Breed &amp; Phil Brooks</li> <li>- Wizard Testmaker software</li> <li>- PowerPoint notes</li> <li>- Regents Review Book - title depends upon year</li> <li>- Various videos <a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a></li> </ul>	<ul style="list-style-type: none"> <li>Isolines</li> <li>Shipwrecks of Lake Ontario</li> <li>Weather Patterns</li> <li>Reading Isobars</li> <li>Air Pressure and Wind Speeds</li> <li>Hurricane Tracking</li> <li>Determining Cloud Base</li> <li>NY Metar Lab</li> <li>Station Model Interpretation</li> <li>Coastal &amp; Continental Weather Patterns</li> </ul> <p>Tests</p> <p>Quizzes</p> <p>Homework assignments from textbook &amp; review book</p> <p>Test review packets created with Wizard Testmaker</p> <p>Labs -</p> <ul style="list-style-type: none"> <li>Sunspot Analysis</li> <li>Dimension of the Solar System</li> <li>Apparent Diurnal Motion</li> </ul>	<p>Mid March - April</p>
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## Regents-Level Earth Science Curriculum Map

<p>ST 1,2,4,6,7</p>	<ul style="list-style-type: none"> <li>- Seasons of the year &amp; their causes</li> <li>- Memorize important astronomical calendar dates &amp; data (summer &amp; winter solstices, spring and fall equinoxes)</li> <li>- Angle of Insolation and the Sun's path</li> <li>- The Moon and its properties</li> <li>- Phases of the Moon</li> <li>- Solar, lunar, and annular eclipses</li> <li>- Earth's place in the Universe</li> <li>- Models of the Universe</li> <li>- Evolution of the Universe (life cycles of stars, electromagnetic radiation, red-shift, doppler effect, blue-shift, bright-line spectra, the Big Bang Theory)</li> <li>Earth's History -</li> <li>- Fossils &amp; interpreting the past</li> <li>- Relative Dating &amp; bedrock correlation</li> <li>- Index fossils</li> <li>- Unconformities</li> <li>- Sequencing rock strata, faults, &amp; unconformities</li> <li>- Radioactive decay and absolute dating of rocks</li> <li>- The Geologic Time Scale</li> <li>- Early hominids</li> <li>- Using Geologic History of NYS Chart on reference tables</li> </ul>	<p><a href="http://www.newyorkscienceteacher.com">er.com</a></p> <ul style="list-style-type: none"> <li>- SUNY Oneonta Earth Science Listserv</li> <li>- Smart Classroom Response System (SRP-XE-32)</li> <li>- Document Camera/Projector</li> <li>- SmartBoard</li> <li>- "Let's Get Down To... Earth" podcast from iTunes Store</li> <li>- Classroom Seismograph &amp; roof-mounted weather station</li> </ul> <ul style="list-style-type: none"> <li>- AMSCO Earth Science</li> <li>- The Physical Setting textbook</li> <li>- Earth Science Reference Tables</li> <li>- Mill's Notes Packet</li> <li>- Lab Manual developed by Mike Breed &amp; Phil Brooks</li> <li>- Wizard Testmaker software</li> <li>- PowerPoint notes</li> <li>- Regents Review Book - title depends upon year</li> <li>- Various videos</li> </ul> <p><a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a></p> <ul style="list-style-type: none"> <li>- SUNY Oneonta Earth</li> </ul>	<ul style="list-style-type: none"> <li>of the Sun</li> <li>Duration of Insolation</li> <li>The Ellipse</li> <li>Properties of Stars (H-R Diagram)</li> <li>Phases of the Moon</li> </ul> <p>Tests</p> <p>Quizzes</p> <p>Homework assignments from textbook &amp; review book</p> <p>Test review packets created with Wizard Testmaker</p> <p>Labs -</p> <ul style="list-style-type: none"> <li>Half-life of M&amp;M'ium</li> <li>Bedrock Correlation of Cayuga Lake</li> <li>Sequence of Events</li> <li>Important geologic events in NYS</li> </ul>	<p>Early May</p>
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## Regents-Level Earth Science Curriculum Map

<p>ST 1,2,3,4,6,7</p>	<p>Cumulative review for the regents examination</p>	<p>Science Listserv          - Smart Classroom          Response System (SRP-XE-32)          - Document          Camera/Projector          - SmartBoard          - "Let's Get Down To... Earth" podcast from iTunes Store          - Classroom          Seismograph &amp; roof-mounted weather station</p> <p>- AMSCO Earth Science          - The Physical Setting textbook          - Earth Science Reference Tables          - Mill's Notes Packet          - Lab Manual developed by Mike Breed &amp; Phil Brooks          - Wizard Testmaker software          - PowerPoint notes          - Regents Review Book - title depends upon year          - Various videos  <a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a>          - SUNY Oneonta Earth Science Listserv          - Smart Classroom</p>	<p>Tests</p> <p>Quizzes</p> <p>Homework assignments from textbook &amp; review book</p> <p>Test review packets created with Wizard Testmaker</p> <p>Flash cards</p> <p>Classroom response systems</p> <p>Lists of ways to pass the regents exam</p> <p>Reference Tables review packets</p>	<p>Mid May through date of Regents Examination</p>
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## Regents-Level Earth Science Curriculum Map

		Response System (SRP-XE-32) - Document Camera/Projector - SmartBoard - "Let's Get Down To... Earth" podcast from iTunes Store - Classroom Seismograph & roof-mounted weather station	Practice regents exams  Labs - <u>None</u> during regents review period	
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### COMMON CORE Standards for Science: LITERACY (Addendum to Curriculum Maps) READING

**Key Idea 1:** Read and cite specific evidence from scientific sources to support scientific laws and hypotheses. Make logical inferences and conclusions based on evidence provided. Inquire about any inconsistencies.

Science Lessons to Utilize: All Units & Topics

**Key Idea 3:** Follow precisely a multistep procedure when carrying out experiment, taking measurements, performing technical tasks. Analyze the results and compare to information provided in background reading provided prior to the activity.

Science Lessons to Utilize: All Laboratory Activities

**Key Idea 4:** Determine the meaning of symbols, key terms, and other scientific words and phrases as they are used in specific scientific or technical context.

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Science Lessons to Utilize: All Units & Topics

**Key Idea 7:** Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively as well as written information, to answer questions and solve problems.

Science Lessons to Utilize: All Units & Topics

**Key Idea 8:** Evaluate the hypotheses, data, analysis, and conclusions in a laboratory activity and compare the results to current accepted scientific explanations.

Science Lessons to Utilize: All Laboratory Activities

**Key Idea 9:** Synthesize information from a range of sources, especially experiments, into an understanding of a process or concept, and provide a coherent conclusion

Science Lessons to Utilize: All Units & Topics

\*ADD to current Curriculum Maps: COMMON CORE: Literacy Standards (i.e. CC St Reading KI 2, CC St Writing KI 6)

All current lessons, topics, labs can be part of the Common Core as they DO include reading and writing.

COMMON CORE Standards for Science: LITERACY (Addendum to Curriculum Maps) WRITING

**Key Idea 1:** Write arguments focused on scientific content

a: Introduce scientific topics, establish significance of the topic, organize logical evidence to support current scientific understandings

## Regents-Level Earth Science Curriculum Map

c: Use scientific terms and proper syntax to support and clarify evidence to support current scientific understandings

e: Provide a concluding statement that supports the understandings presented

Science Lessons to Utilize: All Units & Topics

**Key Idea 2:** Write informative lab reports including scientific procedures & technical processes used during experiments

a: Introduce a topic and organize complex ideas, concepts and information so that each new element builds on that which precedes it to create a unified whole, include information from any relevant sources

e: Provide a concluding statement that follows from and supports the information or explanation presented

Science Lessons to Utilize: All Laboratory Activities

**Key Idea 6:** Use technology to produce, publish, update writing products as new information is introduced about current scientific understandings, especially findings from new research

Science Lessons to Utilize: All Units & Topics

**Key Idea 7:** Conduct short as well as more sustained research projects to answer a question or solve a problem, synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation

Science Lessons to Utilize: All Units & Topics

**Key Idea 8:** Gather relevant information from multiple sources, using effective search techniques, to investigate information provided about current scientific understandings

Science Lessons to Utilize: All Units & Topics

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**Key Idea 9:** Draw evidence from various sources to support, analyze, research or contradict current scientific understandings

Science Lessons to Utilize: All Units & Topics

**Key Idea 10:** Write routinely over extended time frames a scientific journal about understandings presented in class

Science Lessons to Utilize: All Units & Topics