# Regents-Level Earth Science Curriculum Map

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<th>Curriculum Materials Used</th>
<th>(All) Assessments Used (Daily/Weekly/Benchmarks)</th>
<th>Time Line</th>
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<td>ST 1,2, 4</td>
<td>Observations &amp; Inferences - know differences</td>
<td>AMSCO Earth Science - The Physical Setting textbook</td>
<td>Tests - all tests throughout the year are written using the Wizard Testmaker software</td>
<td>September</td>
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<tr>
<td></td>
<td>Scientific Problem Solving - using equipment properly</td>
<td>Earth Science Reference Tables - Mill's Notes Packet</td>
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<td></td>
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<tr>
<td>ST 1,2,4, 7</td>
<td>Scientific Measuring &amp; Calculations - Mass, Weight, Length, Area, Volume, Time, Density</td>
<td>Lab Manual developed by Mike Breed &amp; Phil Brooks</td>
<td>Homework assignments from textbook &amp; review book</td>
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<td></td>
<td>Density - measure &amp; calculate</td>
<td>Wizard Testmaker software</td>
<td>Test review packets created with Wizard Testmaker</td>
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<tr>
<td>ST 1,2,4,6, 7</td>
<td>Graphing Skills - Direct/Inverse Relationships, Cyclic changes</td>
<td>PowerPoint notes - Regents Review Book - title depends upon year - Various videos <a href="http://www.newyorkscienteacher.com">www.newyorkscienteacher.com</a></td>
<td>Labs - Graphing Skills - Observations &amp; Inferences - Scientific Method - Density - Metric Measurement - Lab Safety - Percentage Error</td>
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<tr>
<td>ST 1,2,6, 4</td>
<td>Proper use of the Earth Science Reference Tables</td>
<td><a href="http://www.newyorkscienteacher.com">www.newyorkscienteacher.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</td>
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<tr>
<td>ST 1,3,4,6, 7</td>
<td>Models of the Earth/Earth’s Dimensions</td>
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<tr>
<td>ST 1,4,7</td>
<td>Eratosthenes Method for Circumference</td>
<td>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.newyorkscienteacher.com">www.newyorkscienteacher.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</td>
<td>Quizzes</td>
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<td>ST 1,2,4, 6</td>
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<td>ST 1,2,4, 6</td>
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<tr>
<td>ST 1,2,4, 6</td>
<td>Field Maps, Isolines, Contour Lines</td>
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<tr>
<td>ST 1,2,4, 6</td>
<td>Topographic Maps, Gradients, Profiles</td>
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<td>ST 1,2,3,4,6, 7</td>
<td>Properties of Minerals</td>
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<tr>
<td>ST 1,2,3,4,6, 7</td>
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# Regents-Level Earth Science Curriculum Map

<table>
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<tr>
<th>ST 1,2,4, 6 Performance Indicators: 3.1a-c</th>
<th>Sedimentary Rocks - classification, origin, use of reference tables</th>
<th>Metamorphic Rocks -</th>
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<tr>
<td>Reference Tables - Mill's Notes Packet</td>
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<td>Tests</td>
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<tr>
<td>Lab Manual developed by Mike Breed &amp; Phil Brooks</td>
<td>The Physical Setting textbook</td>
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<tr>
<td>Wizard Testmaker software</td>
<td>Earth Science Reference Tables</td>
<td>Homework assignments from</td>
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<tr>
<td>PowerPoint notes</td>
<td>Mill's Notes Packet</td>
<td>textbook &amp; review book</td>
</tr>
<tr>
<td>Regents Review Book - title depends upon year</td>
<td>- <a href="http://www.newyorkscienteacher.com">www.newyorkscienteacher.com</a></td>
<td>Test review packets created with Wizard Testmaker</td>
</tr>
<tr>
<td>Various videos</td>
<td>- SUNY Oneonta Earth Science Listserv</td>
<td>Labs - Mineral Identification Testing</td>
</tr>
<tr>
<td><a href="http://www.newyorkscienteacher.com">www.newyorkscienteacher.com</a></td>
<td>- Smart Classroom Response System (SRP-XE-32)</td>
<td></td>
</tr>
<tr>
<td>- Document Camera/Projector</td>
<td>- “Let’s Get Down To... Earth” podcast from iTunes Store</td>
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<td>- SmartBoard</td>
<td>- Classroom Seismograph &amp; roof-mounted weather station</td>
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<tr>
<td>- Classroom Seismograph &amp; roof-mounted weather station</td>
<td></td>
<td>November</td>
</tr>
</tbody>
</table>
| ST 1,2,4, 6 | classification, origin, use of reference tables | - Lab Manual developed by Mike Breed & Phil Brooks  
- Wizard Testmaker software  
- PowerPoint notes  
- Regents Review Book - title depends upon year  
- Various videos [www.newyorkscienteacher.com](http://www.newyorkscienteacher.com)  
- SUNY Oneonta Earth Science Listserv  
- Smart Classroom Response System (SRP-XE-32)  
- Document Camera/Projector  
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- “Let’s Get Down To... Earth” podcast from iTunes Store  
- Classroom Seismograph & roof-mounted weather station | Test review packets created with Wizard Testmaker  
Labs - Sedimentary Rock ID  
Metamorphic Rock ID  
Igneous Rock ID | December |
| ST 1,2,3,4, 7 | Igneous Rocks - classification, origin, use of reference tables | | |
| ST 1,2,4, 6 | Use of rocks by humans | | |
| ST 1,2,4, 6 | Rock Cycle | | |
| ST 1,2,3,4, 7 | Earth’s Resources | | |
| ST 1,2,3,4,6, 7 | Plate Tectonics Unit  
- Patterns of Crustal Activity  
- Earth’s Lithospheric Plates  
- Earthquakes & Volcanoes  
- Theory of Plate Tectonics  
- Evidence for Plate Tectonics Theory | - AMSCO Earth Science textbook  
- The Physical Setting textbook  
- Earth Science Reference Tables  
- Mill’s Notes Packet  
- Lab Manual developed by Mike Breed & Phil | Tests  
Quizzes  
Homework assignments from textbook & review book |
### Regents-Level Earth Science Curriculum Map

| ST 1,2,4, 6 | Weathering & Erosion Defined | Brooks - Wizard Testmaker software - PowerPoint notes - Regents Review Book - title depends upon year - Various videos [www.newyorkscienteacher.com](http://www.newyorkscienteacher.com) - 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 | Test review packets created with Wizard Testmaker Labs - Continental Drift The Rock Cycle NYS Landscape Regions Plate Boundaries Finding/Plotting Epicenters Tsunamis January |
| ST 1,4,6 7 | Landscapes of New York State | | |
| ST 1,6,7,4 | Groundwater -
- Factors affecting porosity, permeability, and capillarity
- Aquifers, groundwater pollution, artesian wells
- Coastal Processes/Oceanography -
- Beach erosion/depositional patterns
- Ocean currents as outlined on software
- PowerPoint notes
- Regents Review Book -
  title depends upon year
- Various videos
  [www.newyorkscienceteacher.com](http://www.newyorkscienceteacher.com)
- 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 | with Wizard Testmaker Labs - Mechanical weathering Chemical weathering Sediment Settling Times Drainage Patterns Stream Discharge | Early February |
| ST 1,4,6,7 | - AMSCO Earth Science - The Physical Setting textbook
- Earth Science Reference Tables
- Mill's Notes Packet
- Lab Manual developed by Mike Breed & Phil Brooks
- Wizard Testmaker software
- PowerPoint notes | Tests Quizzes Homework assignments from textbook & review book Test review packets created with Wizard Testmaker Labs - |
### Regents-Level Earth Science Curriculum Map

| ST 1,2,4,6,7 | reference tables  
- Tides and coastal changes  
- Shoreline management and environmental impacts | - Regents Review Book - title depends upon year  
- Various videos [www.newyorkscienteacher.com](http://www.newyorkscienteacher.com)  
- 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 & rooftop mounted weather station | Stream Divides & River Systems  
Ocean water vs. Fresh Water | 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 | - AMSCO Earth Science - The Physical Setting textbook  
- Earth Science Reference Tables  
- Mill's Notes Packet  
- Lab Manual developed by Mike Breed & Phil Brooks  
- Wizard Testmaker software  
- PowerPoint notes  
- Regents Review Book - title depends upon year | Tests  
Quizzes  
Homework assignments from textbook & review book  
Test review packets created with Wizard Testmaker  
Labs - Absorption & Radiation of Energy | Mid-February – mid March |
### Regents-Level Earth Science Curriculum Map

| ST 1,2,4, 6 | - Weather patterns & synoptic weather maps  
- Mapping weather variables (isolines, isotherms, isobars, etc.)  
- Air mass and frontal boundaries (cold fronts, warm fronts, occluded fronts, stationary fronts, continental and maritime air masses, tropical, arctic, and polar air masses)  
- Extreme weather (hurricanes, blizzards, tornadoes, sandstorms)  
- Factors affecting climate (proximity to large bodies of water, mountain ranges, etc.) | - Various videos www.newyorkscienteacher.com  
- 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  
- AMSCO Earth Science  
- The Physical Setting textbook  
- Earth Science Reference Tables  
- Mill’s Notes Packet  
- Lab Manual developed by Mike Breed & Phil Brooks  
- Wizard Testmaker software  
- PowerPoint notes  
- Regents Review Book - title depends upon year  
- Various videos www.newyorkscienteacher.com | Isolines  
- Shipwrecks of Lake Ontario  
- Weather Patterns  
- Reading Isobars  
- Air Pressure and Wind Speeds  
- Hurricane Tracking  
- Determining Cloud Base  
- NY Metar Lab  
- Station Model Interpretation  
- Coastal & Continental Weather Patterns  
- Tests  
- Quizzes  
- Homework assignments from textbook & review book  
- Test review packets created with Wizard Testmaker  
- Labs - Sunspot Analysis  
- Dimension of the Solar System  
- Apparent Diurnal Motion | Mid March - April |
| ST 1,2,4,6,7 | - Seasons of the year & their causes  
- Memorize important astronomical calendar dates & data (summer & winter solstices, spring and fall equinoxes)  
- Angle of Insolation and the Sun’s path  
- The Moon and its properties  
- Phases of the Moon  
- Solar, lunar, and annular eclipses  
- Earth’s place in the Universe  
- Models of the Universe  
- Evolution of the Universe (life cycles of stars, electromagnetic radiation, red-shift, doppler effect, blue-shift, bright-line spectra, the Big Bang Theory)  
- Earth’s History -  
- Fossils & interpreting the past  
- Relative Dating & bedrock correlation  
- Index fossils  
- Unconformities  
- Sequencing rock strata, faults, & unconformities  
- Radioactive decay and absolute dating of rocks  
- The Geologic Time Scale  
- Early hominids  
- Using Geologic History of NYS Chart on reference tables | er.com - 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  
- AMSCO Earth Science - The Physical Setting textbook  
- Earth Science Reference Tables  
- Mill’s Notes Packet  
- Lab Manual developed by Mike Breed & Phil Brooks  
- Wizard Testmaker software  
- PowerPoint notes  
- Regents Review Book - title depends upon year  
- Various videos www.newyorkscienteacher.com - SUNY Oneonta Earth  
- Duration of Insolation  
- The Ellipse  
- Properties of Stars (H-R Diagram)  
- Phases of the Moon  | Tests  
Homework assignments from textbook & review book  
Test review packets created with Wizard Testmaker  
Labs - Half-life of M&M'ium  
Bedrock Correlation of Cayuga Lake  
Sequence of Events  
Important geologic events in NYS  | Early May
# Regents-Level Earth Science Curriculum Map

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<tr>
<th>ST 1,2,3,4,6,7</th>
<th>Cumulative review for the regents examination</th>
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<tr>
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<td>Science Listserv</td>
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<tr>
<td></td>
<td>- Smart Classroom Response System (SRP-XE-32)</td>
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<td><a href="http://www.newyorkscienceteacher.com">www.newyorkscienceteacher.com</a></td>
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<td>- SUNY Oneonta Earth Science Listserv</td>
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<td>Test review packets created with Wizard Testmaker</td>
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<td>Flash cards</td>
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<td>Classroom response systems</td>
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<td>Lists of ways to pass the regents exam</td>
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<td></td>
<td>Reference Tables review packets</td>
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</tbody>
</table>

Mid May through date of Regents Examination
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.
Regents-Level Earth Science Curriculum Map

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
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