

# CURRICULUM MAP

**Subject: Science**

**Grade Level: 8**

**revised Summer 2018 to reflect NYSSLS**

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FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
<p><b>Disciplinary Core Ideas:</b>  <b>Interactions of Life</b>  <i>NYSSLS:MS-LS2-1; MS-LS-2-3</i>            Living Earth            Populations            Interactions among living organisms</p> <p><b>Matter &amp; Energy in Organisms &amp; Ecosystems</b>  <i>NYSSLS: MS_LS2-2;LS-1.C; LS2.A; LS2.B; PS3.D</i>            The Non-living Environment           <ul style="list-style-type: none"> <li>o Abiotic Factors</li> <li>o Cycles in Nature</li> <li>o Energy Flow</li> </ul>           Ecosystems           <ul style="list-style-type: none"> <li>o Changing Ecosystems</li> <li>o Land environments</li> <li>o Aquatic environments</li> </ul> </p> <p><b>History of Earth</b>  <i>MS-ESS2-2; MS-ESS2-3; ESS1.C;ESS2.B</i>            Plate Tectonics           <ul style="list-style-type: none"> <li>o Sea floor spreading</li> <li>o Continental Drift</li> <li>o Theory of Plate Tectonics</li> </ul>           Earthquakes           <ul style="list-style-type: none"> <li>o Faults &amp; folding</li> <li>o Waves, epicenters, &amp; triangulation</li> </ul>           Volcanoes           <ul style="list-style-type: none"> <li>o Explosive, shield, &amp; composite</li> <li>o Lava, tephra, &amp; magma</li> </ul> </p> <p><b>Cross-Cutting Concepts:</b>            Patterns            Cause &amp; Effect            Scale, Proportion &amp; Quantity</p>	<p><b>Disciplinary Core Ideas:</b>  <b>Space Systems</b>  <i>NYSSLS: NS-ESS1-1; MS-ESS1-2; MS-ESS1-3; ESS1.B</i>            Sun-Earth-Moon System           <ul style="list-style-type: none"> <li>o Earth</li> <li>o The Moon-Earth's Satellite</li> <li>o Exploring Earth's moon</li> </ul>           The Solar System           <ul style="list-style-type: none"> <li>o Inner/Outer Planets</li> <li>o Geocentric &amp; Heliocentric Models</li> <li>o Meteors, Meteorites, &amp; Moons</li> </ul> </p> <p><b>Structure and Properties of Matter</b>  <i>NYSSLS: MS-PS1-1; MS-PS1-2; MS-PS1-2; MS-PS 1-5; MS-PS 1-6;PS1.B; PS3.A</i>            Inside the Atom           <ul style="list-style-type: none"> <li>o Sub-atomic Particles</li> <li>o Models of Atomic Structure</li> <li>o The Nucleus</li> </ul>           The Periodic Table           <ul style="list-style-type: none"> <li>o Representative Elements</li> <li>o Transition Elements</li> </ul>           Atomic Structure &amp; Bonding           <ul style="list-style-type: none"> <li>o Why Atoms Combine</li> <li>o How Elements Bond</li> </ul> </p> <p><b>Cross-Cutting Concepts:</b>            Cause &amp; Effect            Scale, Proportion &amp; Quantity            Systems &amp; System Models            Energy &amp; Matter            Structure &amp; Function            Stability &amp; Change</p>	<p><b>Disciplinary Core Ideas:</b>  <b>Structure and Properties of Matter Con't.</b>            Chemical Reactions           <ul style="list-style-type: none"> <li>o Synthesis &amp; Decomposition</li> <li>o Rate of Reaction</li> <li>o Exothermic vs. Endothermic Reactions</li> <li>o Solubility Curves</li> </ul> </p> <p><b>Forces &amp; Interactions</b>  <i>NYSSLS: MS-PS 2-1; MS-PS 2-2;PS 2.A; PS 2.B;MS-PS 2-3; MS-PS 2-5MS-PS 3-6</i>            Motion &amp; Momentum           <ul style="list-style-type: none"> <li>o Motion</li> <li>o Acceleration</li> <li>o Momentum</li> </ul>           Force &amp; Newton's Laws           <ul style="list-style-type: none"> <li>o Newton's 1st Law</li> <li>o Newton's2nd Law</li> <li>o Newton's 3rd Law</li> <li>o Law of Conservation of Energy</li> </ul>           Physical Interactions           <ul style="list-style-type: none"> <li>o Electricity: electric charge, currents, circuits</li> <li>o Magnetism: what is magnetism, relationship between electricity &amp; magnetism</li> <li>o Waves: amplitude &amp; frequency, behavior of waves</li> <li>o Sound</li> <li>o Light</li> </ul> </p> <p><b>Cross-Cutting Concepts:</b>            Patterns            Cause &amp; Effect            Scale, Proportion &amp; Quantity            Energy &amp; Matter</p>	<p><b>Disciplinary Core Ideas:</b>  <b>Review for Lab Practical</b>  <i>NYSSLS: MS-PS 1-7;MS-PS 2-1; MS-PS 3-1;MS-LS 2-2;</i>            Microscope skills &amp; field of view            Measuring density            Inclined planes            Classification</p> <p><b>Administration of Lab Practical</b></p> <p><b>Review for NYS Written Assessment</b>  <i>NYSSLS: MS ESS 2-1;MS-ESS2-2; MS-ESS2-3; ESS1.C;ESS2.B;MS-ESS3-1; 3-5-ETS1-1; 3-5_ETSI1-2; 3-5-ETS1-3</i>            Topographic maps            S &amp; P graphs            Human organ systems            Rock cycle            Graph reading            Simple machines            Mineral identification</p> <p><b>Administration of NYS Written Assessment</b></p> <p><b>Introduction to Earth Science Topics</b>  <i>MS-ESS2; MS-ETS1-1; MS-ETS1-2; MS-ETS1-3; MS-ETS1-4</i>            Lab format            Use of Reference Tables            Map Reading            Contour maps            Weather maps</p> <p><b>Cross-Cutting Concepts:</b>            Patterns            Cause &amp; Effect            Scale, Proportion &amp; Quantity            Systems &amp; System Models            Energy &amp; Matter            Structure &amp; Function</p>

<p>Systems &amp; System Models Energy &amp; Matter Stability &amp; Change</p> <p><b>Science &amp; Engineering Practices:</b> Asking Questions &amp; Defining Problems Developing &amp; Using Models Analyzing &amp; Interpreting Data Constructing Explanations &amp; Designing Solutions Engaging in Argument from Evidence Obtaining, Evaluating &amp; Communicating Information</p>	<p><b>Science &amp; Engineering Practices:</b> Asking Questions &amp; Defining Problems Developing &amp; Using Models Analyzing &amp; Interpreting Data Using Mathematics &amp; Computational Thinking Constructing Explanations &amp; Designing Solutions Engaging in Argument from Evidence Obtaining, Evaluating &amp; Communicating Information</p>	<p>Structure &amp; Function Stability &amp; Change</p> <p><b>Science &amp; Engineering Practices:</b> Asking Questions &amp; Defining Problems Developing &amp; Using Models Planning &amp; Carrying Out Investigations Analyzing &amp; Interpreting Data Using Mathematics &amp; Computational Thinking Constructing Explanation s&amp; Designing Solutions Engaging in Argument from Evidence Obtaining, Evaluating &amp; Communicating Information</p>	<p>Stability &amp; Change</p> <p><b>Science &amp; Engineering Practices:</b> Asking Questions &amp; Defining Problems Developing &amp; Using Models Planning &amp; Carrying Out Investigations Analyzing &amp; Interpreting Data Using Mathematics &amp; Computational Thinking Constructing Explanations &amp; Designing Solutions Engaging in Argument from Evidence Obtaining, Evaluating &amp; Communicating Information</p>
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