<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC.912.E.7.1</td>
<td>Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.</td>
<td>Water <a href="https://app.discoveryeducation.com/learn/techbook/units/73656a3b-0396-4643-8911-994e3c5e113/concepts/23356bb-6cb9-d11f-b24c-51570e87001e/tabs/75da9a7-2eef-4cde-9515-7081ca990764/pages/43b80e21-9f5b-4ba7-b5c9-8227c7a45cfe">Chemical Properties and Changes &gt; Water and Solutions &gt; Water &gt; Explore &gt; Core Interactive Text p2 &gt; The Water Cycle</a></td>
</tr>
<tr>
<td>SC.912.E.7.1</td>
<td>Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.</td>
<td>Energy for Life <a href="https://app.discoveryeducation.com/learn/techbook/units/8c2f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/5b594c6a-64a0-4796-b2c1-13ebcbbd6ac1/tabs/759da9a7-2eef-4cde-9515-7081ca990764/pages/3fc596bb-3aff-4115-b10b-a89fbc8e8e4f">Energy, Force, and Motion &gt; Energy &gt; Energy for Life &gt; Explore &gt; Core Interactive Text p5 &gt; What is the role of Photosynthesis, Respiration in the Carbon Cycle</a></td>
</tr>
<tr>
<td>SC.912.L.18.7</td>
<td>Identify the reactants, products, and basic functions of photosynthesis.</td>
<td>Energy for Life <a href="https://app.discoveryeducation.com/learn/techbook/units/8c2f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/5b594c6a-64a0-4796-b2c1-13ebcbbd6ac1/tabs/759da9a7-2eef-4cde-9515-7081ca990764/pages/3fc596bb-3aff-4115-b10b-a89fbc8e8e4f">Energy, Force, and Motion &gt; Energy &gt; Energy for Life &gt; Explore &gt; Core Interactive Text p5 &gt; What is the role of Photosynthesis, Respiration in the Carbon Cycle</a></td>
</tr>
<tr>
<td>SC.912.L.18.8</td>
<td>Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.</td>
<td>Energy for Life <a href="https://app.discoveryeducation.com/learn/techbook/units/8c2f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/5b594c6a-64a0-4796-b2c1-13ebcbbd6ac1/tabs/759da9a7-2eef-4cde-9515-7081ca990764/pages/3fc596bb-3aff-4115-b10b-a89fbc8e8e4f">Energy, Force, and Motion &gt; Energy &gt; Energy for Life &gt; Explore &gt; Core Interactive Text p5 &gt; What is the role of Photosynthesis, Respiration in the Carbon Cycle</a></td>
</tr>
<tr>
<td>ELD.K12.ELL.SC.1</td>
<td>English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.</td>
<td>Thermochemistry <a href="https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19f6813b50fb/concepts/32da5833-391b-4a2e-b3f3-7a7d19fa460b/lesson/sections/62e18966-f429-4694-931d-3276d8c500f8">Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Thermochemistry&gt;Model Lesson</a></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ELD.K12.ELL.SC.1</td>
<td>English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.</td>
<td>Solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chemical Properties and Changes &gt; Water and Solutions &gt; Solutions &gt; Explore &gt; Explore More resources: English Language Proficiency Activity: Solutions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Matter &gt; Electromagnetism &gt; Electric Circuits &gt; Explain &gt; Teacher Guide &gt; Sharing Scientific Explanations</td>
</tr>
<tr>
<td>LAFS.910.RST.1.1</td>
<td>Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</td>
<td>Nuclear Chemistry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Matter &gt; Understanding Atoms &gt; Nuclear Chemistry &gt; Explore &gt; Explore More Resources &gt; Reading Passage &gt; Irradiating Food</td>
</tr>
<tr>
<td>LAFS.910.RST.1.1</td>
<td>Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</td>
<td>Newton’s Third Law of Motion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Energy, Force, and Motion &gt; Motion &gt; Newton’s Third Law of Motion &gt; Explain</td>
</tr>
<tr>
<td>LAFS.910.RST.1.2</td>
<td>Determine the central ideas or conclusions of a text; trace the texts explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.</td>
<td>Wave Characteristics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Energy, Force, and Motion &gt; Energy &gt; Wave Characteristics &gt; Explore &gt; Explore More Resources &gt; Reading Passage &gt; Particle or Wave</td>
</tr>
<tr>
<td>LAFS.910.RST.1.3</td>
<td>Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</td>
<td>Work and Power</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Energy, Force, and Motion &gt; Motion &gt; Work and Power &gt; Explore &gt; Explore More Resources &gt; Hands-On Lab: Mechanical Advantage</td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| LAFS.910.RST.2.4 | 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 9-10 texts and topics. | Work and Power  
Energy, Force, and Motion > Motion > Work and Power>Explore>Core Interactive Text p1 & 2  
https://app.discoveryeducation.com/learn/techbook/units/7c19f365-b504-461a-b342-c4cc9b3be2c5/concepts/dc97221c-c184-4f6c-ad72-d9164cec9c3a/tabs/759da9a7-2edf-4cde-9515-7081ca990764 |
| LAFS.910.RST.2.5 | Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy). | Applying Newton's Laws of Motion  
Energy, Force, and Motion > Motion > Applying Newton's Laws of Motion>Explore>Core Interactive Text p1>Motion at High Speeds.  
https://app.discoveryeducation.com/learn/techbook/units/7c19f365-b504-461a-b342-c4cc9b3be2c5/concepts/f8b9cf4f-b4f7-4b98-81f5-072a91ada957/tabs/759da9a7-2edf-4cde-9515-7081ca990764 |
| LAFS.910.RST.2.6 | Analyze the authors purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address. | Development of the Atomic Theory  
Matter > Understanding Atoms > Development of the Atomic Theory>Explore>Explore More resources>STEM Project: Legends and Rumors  
https://app.discoveryeducation.com/learn/techbook/units/8e63b3c8-2c95-4b06-b74d-0e4c2f99e56c/concepts/5748e36e-4493-4ca-a860-12d36eabfd65/tabs/054d49d8-d854-4203-b276-19e25b56cc5f/pages/F69BDF55-86D1-4A34-B4DE-7E63001E0588 |
| LAFS.910.RST.3.7 | Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words. | Newton's Second Law of Motion  
Energy, Force and Motion > Motion >Newton's Second Law of Motion>Evaluate>Constructed Response: Newton's Second Law of Motion: Using Charts  
https://app.discoveryeducation.com/player/view/assetGuid/5eba8b5e-d3f2-4c6f-b5ac-34876d6f8d87 |
| LAFS.910.RST.3.7 | Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words. | Solving Motion Problems  
Energy, Force, and Motion > Motion > Solving Motion Problems >Evaluate> Constructed Response: Solving Motion Problems- Charts  
https://app.discoveryeducation.com/player/view/assetGuid/9f940986-1cd2-4668-8898-a19e84f3c016 |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAFS.910.RST.3.7</td>
<td>Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</td>
<td>using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Methods &gt; Evaluate &gt; Constructed Response: Using Scientific Methods: Drawing Inferences From Promotional Material for Products <a href="https://app.discoveryeducation.com/player/view/assetGuid/c682002a-5e7f-4a63-9381-1daec3e94ec7">https://app.discoveryeducation.com/player/view/assetGuid/c682002a-5e7f-4a63-9381-1daec3e94ec7</a></td>
</tr>
<tr>
<td>LAFS.910.RST.3.8</td>
<td>Assess the extent to which the reasoning and evidence in a text support the authors claim or a recommendation for solving a scientific or technical problem.</td>
<td>using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Methods &gt; Evaluate &gt; Constructed Response: Using the Scientific Method <a href="https://app.discoveryeducation.com/core:assessment/science?assessmentGuid=9d7f0b8c-d291-4de3-a74d-2a07c9b408a8&amp;conceptGuid=a7e0fb6c-68e0-4960-9401-6319e7e30be5">https://app.discoveryeducation.com/core:assessment/science?assessmentGuid=9d7f0b8c-d291-4de3-a74d-2a07c9b408a8&amp;conceptGuid=a7e0fb6c-68e0-4960-9401-6319e7e30be5</a></td>
</tr>
<tr>
<td>SC.912.N.1.4</td>
<td>Identify sources of information and assess their reliability according to the strict standards of scientific investigation.</td>
<td>using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Methods &gt; Explore &gt; p2 &gt; Researching, evaluating and referencing sources <a href="https://app.discoveryeducation.com/learn/techbook/units/95ab1822-f911-d7c-aa6b-8fde5d917a85/concepts/a7e0fb6c-68e0-4960-9401-6319e7e30be5/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/bfd3829c-98c7-482a-bd8a-e5425e7f86e">https://app.discoveryeducation.com/learn/techbook/units/95ab1822-f911-d7c-aa6b-8fde5d917a85/concepts/a7e0fb6c-68e0-4960-9401-6319e7e30be5/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/bfd3829c-98c7-482a-bd8a-e5425e7f86e</a></td>
</tr>
<tr>
<td>LAFS.910.RST.3.8</td>
<td>Assess the extent to which the reasoning and evidence in a text support the authors claim or a recommendation for solving a scientific or technical problem.</td>
<td>Classification of Matter Matter &gt; Behavior of Matter &gt; Classification of Matter &gt; Explore &gt; Explore More Resources &gt; Reading Passage: In the Dark About Dark Matter. <a href="https://app.discoveryeducation.com/player/view/assetGuid/65827e4f-dfb7-4ae6-a8b-9be1c370b9f8">https://app.discoveryeducation.com/player/view/assetGuid/65827e4f-dfb7-4ae6-a8b-9be1c370b9f8</a></td>
</tr>
<tr>
<td>SC.912.N.1.5</td>
<td>Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.</td>
<td>using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Method s &gt; Explore &gt; Explore More Resources &gt; Reading Passage: Fusion Confusion <a href="https://app.discoveryeducation.com/player/view/assetGuid/2f20b24d-262d-4084-9afe-694655ae2aa">https://app.discoveryeducation.com/player/view/assetGuid/2f20b24d-262d-4084-9afe-694655ae2aa</a></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>----------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| LAFS.910.RST.3.9 | Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts. | Reaction Rate  
Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain  
https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19ef813b50fb/concepts/d0a84c06-422a-4fbb-b8b8-6695c8415739/tabs/0df56444-5400-41eb-a6ce-de52b7e9b950 |
| LAFS.910.RST.4.10 | By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently. | Work and Power  
Energy, Force, and Motion > Motion > Work and Power > Explore > Core Interactive Text p1 & 2  
https://app.discoveryeducation.com/learn/techbook/units/7c19f365-b504-461a-b542-c4c9b3be2c5/concepts/dc9721c-c184-4f6c-ad72-d9164ace9c3a/tabs/759da9a7-2edf-4cde-9515-781ca990764 |
| LAFS.910.SL.1.1 | Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others ideas and expressing their own clearly and persuasively. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. Propel conversations byposing and responding to | Reaction Rate  
Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain > Teacher guide  
| SC.912.N.2.1 | Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science). | Using Scientific Methods  
Energy, Force and Motion > The Process of Science > Using Scientific Methods > Explore > Explore More resources > Reading Passage: What is Science?  
https://app.discoveryeducation.com/player/view/assetGuid/322310db-f74c-4aed-a120-515b1cd3414 |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| SC.912.N.2.2   | Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion. | Using Scientific Methods  
Energy, Force and Motion > The Process of Science > Using Scientific Methods > Explore > Explore More resources > Reading Passage: What is Science? [Link](https://app.discoveryeducation.com/player/view/assetGuid/322310db-f74c-4aed-a120-515bc1cd3414)  
Using Scientific Methods  
Energy, Force and Motion > The Process of Science > Elaborate > STEM Project: Can Robots Become Human? [Link](https://app.discoveryeducation.com/learn/techbook/units/95ab1822-f91-4d7c-a6b-8fd5d517a35/concepts/a7e0fb6c-68e0-496-9-619e7e30be5/tabs/054d49d8-d8f5-4203-b276-19e25b56cc5f/pages/50D15058-7D04-D8B5-A918-042831B09063) |
| SC.912.N.2.2   | Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion. | Using Scientific Methods  
Energy, Force and Motion > The Process of Science > Using Scientific Methods > Explore > Explore More resources > Reading Passage: What is Science? [Link](https://app.discoveryeducation.com/player/view/assetGuid/322310db-f74c-4aed-a120-515bc1cd3414)  
Using Scientific Methods  
Energy, Force and Motion > The Process of Science > Elaborate > STEM Project: Can Robots Become Human? [Link](https://app.discoveryeducation.com/learn/techbook/units/95ab1822-f91-4d7c-a6b-8fd5d517a35/concepts/a7e0fb6c-68e0-496-9-619e7e30be5/tabs/054d49d8-d8f5-4203-b276-19e25b56cc5f/pages/50D15058-7D04-D8B5-A918-042831B09063) |
| SC.912.N.2.3   | Identify examples of pseudoscience (such as astrology, phrenology) in society. | Using Scientific Methods  
Energy, Force and Motion > The Process of Science > Using Scientific Methods > Explore > Explore More resources > Reading Passage: What is Science? [Link](https://app.discoveryeducation.com/player/view/assetGuid/322310db-f74c-4aed-a120-515bc1cd3414)  
Using Scientific Methods  
Energy, Force and Motion > The Process of Science > Elaborate > STEM Project: Can Robots Become Human? [Link](https://app.discoveryeducation.com/learn/techbook/units/95ab1822-f91-4d7c-a6b-8fd5d517a35/concepts/a7e0fb6c-68e0-496-9-619e7e30be5/tabs/054d49d8-d8f5-4203-b276-19e25b56cc5f/pages/50D15058-7D04-D8B5-A918-042831B09063) |
| LAFS.910.SL.1.1 | a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. | Periodic Trends  
Chemical Properties and Changes > Introducing the Periodic Table > Periodic Trends > Explain [Link](https://app.discoveryeducation.com/learn/techbook/units/a9596c3-8856-4395-886f-5e368379f60/concepts/c29850a7-4557-4bab-bddc-866c2ce9dd35/tabs/0df56444-5400-41eb-a6ce-de52b7efb950) |
| LAFS.910.SL.1.1 | b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed. | Reaction Rate  
Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain [Link](https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19ef813b50f/concepts/d5a84c6-427a-4fbb-b888-669c58415739/tabs/0df56444-5400-41eb-a6ce-de52b7efb950) |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| SC.912.N.2.5   | Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations. | Using Scientific Methods
| LAFS.910.SL.1.1| c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions. | Reaction Rate
| LAFS.910.SL.1.1| d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. | Reaction Rate
| SC.912.N.3.2   | Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science. | Using Scientific Methods
| LAFS.910.SL.1.3| Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence. | Nuclear Chemistry
Matter > Understanding Atoms > Nuclear Chemistry > Explore > Explore More Resources > Reading Passage: Irradiating Food [https://app.discoveryeducation.com/player/view/assetGuid/d5733a52-ccb0-40c9-8ab2-c64bc9bb20b](https://app.discoveryeducation.com/player/view/assetGuid/d5733a52-ccb0-40c9-8ab2-c64bc9bb20b) |
| LAFS.910.SL.2.4| Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task. | Reaction Rate
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| LAFS.910.SL.2.5 | Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. | Gas Laws  
Matter > Behavior of Matter > Gas Laws > Elaborate with STEM > STEM Project Starter: Want to Dive?  
https://app.discoveryeducation.com/learn/techbook/units/750b6a64-7f96-4436-b39e-7cbf69232a7/lessons/39d769e3-3c50-44df-9e07-f035662e99e22/tabs/054d49d8-d8f6-4203-b276-19e255b3c5f/pages/d07f3e2b-7503-4015-a271-02bb01656654 |
| LAFS.910.SL.2.5 | Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. | Reaction Rate  
Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain > Teacher guide  
| LAFS.910.WHST.1.1 | Write arguments focused on discipline-specific content. a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. | Reaction Rate  
Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain > Teacher guide  
| LAFS.910.WHST.1.1 | b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audiences knowledge level and concerns. | Reaction Rate  
Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain > Teacher guide  
| LAFS.910.WHST.1.1 | c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. | Reaction Rate  
Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain  
https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19e6f13b50ff/lessons/d0a84d06-4224-4fbb-b8b6-6695e8415739/tabs/0df56444-5400-41eb-a6ce-de52b7e950b |
| LAFS.910.WHST.1.1 | d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. | Reaction Rate  
Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain  
| LAFS.910.WHST.1.1 | e. Provide a concluding statement or section that follows from or supports the argument presented. | Reaction Rate  
Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain > Teacher guide  
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAFS.910.WHST.1.2:</td>
<td>Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</td>
</tr>
</tbody>
</table>

### Lessons Where Standard/Benchmark Is Directly Addressed in Major Tool (Most In-Depth Coverage Listed First)

- **Parts of the Atom**
  - **Matter > Understanding Atoms > Parts of the Atom> Arts of the Atom > Elaborate with STEM > STEM Project Starters page 2 > Project: Artificially Made**
  
  [Link](https://app.discoveryeducation.com/learn/techbook/units/9efb3bc3-2c95-4b0e-b74d-04ec2f99e56c/concepts/b6933f2e-81d6-4b36-8f1f-0bf8395d2836/tabs/054d49d8-d8f5-4203-b276-19e25b56cc5f/pages/4B521C86-1713-45F4-9289-7317736A07E0)

- **Reaction Rate**
  - **Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain**
  
  [Link](https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19ef813b50fb/concepts/d0a84c06-422a-4fbb-b8b8-6695c8415739/tabs/0df56444-5400-41eb-a6ce-de52b7efb950)

- **Reaction Rate**
  - **Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain**
  
  [Link](https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19ef813b50fb/concepts/d0a84c06-422a-4fbb-b8b8-6695c8415739/tabs/0df56444-5400-41eb-a6ce-de52b7efb950)

- **Reaction Rate**
  - **Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain**
  
  [Link](https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19ef813b50fb/concepts/d0a84c06-422a-4fbb-b8b8-6695c8415739/tabs/0df56444-5400-41eb-a6ce-de52b7efb950)

- **Reaction Rate**
  - **Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain**
  
  [Link](https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19ef813b50fb/concepts/d0a84c06-422a-4fbb-b8b8-6695c8415739/tabs/0df56444-5400-41eb-a6ce-de52b7efb950)

- **Reaction Rate**
  - **Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain**
  
  [Link](https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19ef813b50fb/concepts/d0a84c06-422a-4fbb-b8b8-6695c8415739/tabs/0df56444-5400-41eb-a6ce-de52b7efb950)

- **Solutions**
  - **Chemical Properties and Changes > Water and Solutions > Solutions > Explore > Explore More Resources > Hands-On Lab: Super Solubility**
  
  [Link](https://app.discoveryeducation.com/player/view/assetGuid/98ab8e96-883f-407d-966f-f9e6bf382b5b)
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAFS.910.WHST.2.2</td>
<td>1. Provide a concluding statement or section that follows from or supports the argument presented.</td>
<td>Thermochemistry  Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Thermochemistry &gt; Explain</td>
</tr>
<tr>
<td>LAFS.910.WHST.1.2</td>
<td>1. Provide a concluding statement or section that follows from or supports the argument presented.</td>
<td>Reaction Rate  Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Reaction Rate &gt; Explain &gt; Teacher guide</td>
</tr>
<tr>
<td>LAFS.910.WHST.2.4</td>
<td>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</td>
<td>Reaction Rate  Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Reaction Rate &gt; Explain &gt; Teacher guide</td>
</tr>
<tr>
<td>LAFS.910.WHST.2.5</td>
<td>Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</td>
<td>Reaction Rate  Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Reaction Rate &gt; Explain &gt; Teacher guide</td>
</tr>
<tr>
<td>LAFS.910.WHST.2.5</td>
<td>Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</td>
<td>Development of the Atomic Theory  Matter &gt; Understanding Atoms &gt; Development of the Atomic Theory &gt; Elaborate with STEM &gt; STEM Project Starters page 1 &gt; Project: Behind the Scenes at CERN</td>
</tr>
<tr>
<td>LAFS.910.WHST.2.6</td>
<td>Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technologies capacity to link to other information and to display information flexibly and dynamically.</td>
<td>Reaction Rate  Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Reaction Rate &gt; Explain</td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| LAFS.910.WHST.7.7 | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. | Applying Newton’s Laws of Motion > Energy, Force, and Motion > Motion > Applying Newton’s Laws of Motion > Elaborate > STEM in Action > TEI: Newton’s Laws and Robotics  
https://app.discoveryeducation.com/learn/techbook/units/7c19f365-b504-461a-b342-c4cc9b3be2c5/concepts/f8b9cf4f-b4f7-4b98-81f5-072a91ada957/tabs/054d49d8-d8f5-4203-b276-19e25b56cc5f |
| LAFS.910.WHST.7.7 | Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. | Applying Newton’s Laws of Motion > Energy, Force, and Motion > Motion > Applying Newton’s Laws of Motion > Elaborate > STEM Project Starters: Applying Newton’s Laws to Travel Systems  
https://app.discoveryeducation.com/learn/techbook/units/7c19f365-b504-461a-b342-c4cc9b3be2c5/concepts/f8b9cf4f-b4f7-4b98-81f5-072a91ada957/tabs/054d49d8-d8f5-4203-b276-19e25b56cc5f/pages/842CB517-15E2-4BEF-94B3-1AB155895230 |
| LAFS.910.WHST.7.8 | Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. | Reaction Rate > Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain > Teacher guide  
| LAFS.910.WHST.7.8 | Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. | Chemical Reactions and Equations > Chemical Properties and Changes > Chemical Reactions and Equations > Elaborate with STEM > STEM Project Starter: How Can You Scrub a Smokestack?  
https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19ef813b50fb/concepts/95b34eaf-0130-42b8-896d-0e6c6b276c1e/tabs/054d49d8-d8f5-4203-b276-19e25b56cc5f/pages/de5856ee-b337-4df9-95f6-35a36a285d0 |
| LAFS.910.WHST.7.9 | Draw evidence from informational texts to support analysis, reflection, and research. | Reaction Rate > Chemical Properties and Changes > Chemical Reactions and Equations > Reaction Rate > Explain > Teacher guide  
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| LAFS.910.WHST.4.10 | Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. | Reaction Rate  
Chemical Properties and Changes  
> Chemical Reactions and Equations  
> Reaction Rate  
> Explain  
> Teacher guide  
| MAFS.912.N-Q.1.1 | Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. | Electric Circuits  
Matter  
> Electromagnetism  
> Electric Circuits  
> Explore  
> Explore More Resources  
> Problem Solving Worksheet: Electric Circuits  
https://app.discoveryeducation.com/player/view/assetGuid/7bbf0497-fc3f-44a8-8293-3637da335c06 |
| MAFS.912.N-Q.1.1 | Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. | Electric Circuits  
Matter  
> Electromagnetism  
> Electric Circuits  
> Explore  
> Explore More Resources  
https://app.discoveryeducation.com/player/view/assetGuid/7361e746-1b72-4eb1-96ed-7a7e7cd1fe4 |
| MAFS.912.N-Q.1.3 | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. | Measurement  
Energy, Force, and Motion  
> The Process of Science  
> Measurement  
> Explore  
> Core Interactive Text p2  
> Making Accurate and precise Measurements  
https://app.discoveryeducation.com/learn/techbook/units/95ab1822-ff91-4d7c-aab6-86c5d57a35/concepts/a8be70de-2051-43c1-82c4-ab703980220d/tabs/759da9a7-2eef-4cde-9515-7081ca990764/pages/e8b880e8-cb55-4bf7-9a88-56a14eb494f |
| SC.912.P.10.5 | Relate temperature to the average molecular kinetic energy. | Thermochemistry  
Chemical Properties and Changes  
> Chemical Reactions and Equations  
> Thermochemistry  
> Explore  
> Explore More Resources  
> Enthalpy of Neutralization  
https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19e813b50f6/concepts/324a5833-391b-4a2e-b3f3-7a7d19fa460b/tabs/759da9a7-2eef-4cde-9515-7081ca990764/pages/9bf62a71-ca4e-4b4c-bd1a-80c239cf2dd0 |
| MAFS.912.N-Q.1.3 | Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. | Measurement  
Energy, Force, and Motion  
> The Process of Science  
> Measurement  
> Explore  
> Core Interactive Text p2  
> From Hot to Cold  
https://app.discoveryeducation.com/player/view/assetGuid/2f9fcee7-ad5-4c4a-be2b-9afee8bc6061 |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| MAFS.K12.MP.1.1 | Make sense of problems and persevere in solving them. | Applying Newton’s Laws of Motion  
Energy, Force, and Motion > Motion > Applying Newton’s Laws of Motion > Explore > Explore More Resources > Activity: Known Forces of Motion #2  
https://app.discoveryeducation.com/player/view/assetGuid/576e3e0e-8da3-446f-bd33-7040497c99d3 |
| MAFS.K12.MP.1.1 | Make sense of problems and persevere in solving them. | Gravity  
Energy, Force and Motion > Force > Gravity > Explore > Core Interactive Text p2 > Gravitational Fields  
https://app.discoveryeducation.com/learn/techbook/units/e38fe020-24d3-4f72-a742-599de7325299/concepts/8d7b7055-f8d9-4d0c-b14a-2db88fde69f5/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/76d60587-c038-439c-b861-78cd2781008e |
| MAFS.K12.MP.2.1 | Reason abstractly and quantitatively. | Electricity and Magnetism  
Matter > Electromagnetism > Electricity and Magnetism > Explore > Explore More Resources > Hands-On Activity: Modeling Electromagnetic Waves  
https://app.discoveryeducation.com/player/view/assetGuid/bcd542a2-a89e-44c9-a72d-3a9e12dfbbce |
| SC.912.P.10.10 | Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear). | Fundamental Forces  
Energy, Force and Motion > Force > Fundamental Forces>Explore>Core Interactive Text p1>Four Forces.  
https://app.discoveryeducation.com/learn/techbook/units/e38fe020-24d3-4f72-a742-599de7125299/concepts/24560d00-4cd8-47a5-943b-40035c5209b/tabs/759da9a7-2edf-4cde-9515-7081ca990764 |
| MAFS.K12.MP.2.1 | Reason abstractly and quantitatively. | Electric Circuits  
Matter > Electromagnetism > Electric Circuits > Explore > Explore More Resources > Activity: Voltage and Current in DC Circuits  
https://app.discoveryeducation.com/player/view/assetGuid/c3575b6a-4b9a-4d17-a95c-3a94659d02d |
| MAFS.K12.MP.2.1 | Reason abstractly and quantitatively. | Work and Power  
Energy, Force, and Motion > Motion > Work and Power > Explore > Explore More Resources > Activity: Definition of Work #1  
https://app.discoveryeducation.com/player/view/assetGuid/a4e88dbf-0619-483c-921d-26ea9baa9223 |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAFS.K12.MP.4.1</td>
<td>Model with mathematics.</td>
<td>Nuclear Chemistry &gt; Matter &gt; Understanding Atoms &gt; Nuclear Chemistry &gt; STEM Project Starter: How Much Energy <a href="https://app.discoveryeducation.com/learn/techbook/units/8e6b3b3c8-2c95-4b06-b74d-0e4c2ff99e56c/concepts/1558cc01-0d34-44c7-aef9d-61a5687446d4/tabs/054d49d8-8df5-4203-b276-19e25b56cc5f/pages/68583188-8661-44d4-a182-acf9d16a1527">Link</a></td>
</tr>
<tr>
<td>MAFS.K12.MP.5.1</td>
<td>Use appropriate tools strategically.</td>
<td>Nuclear Chemistry &gt; Matter &gt; Understanding Atoms &gt; Nuclear Chemistry &gt; STEM Project Starter: How Much Energy <a href="https://app.discoveryeducation.com/learn/techbook/units/8e6b3b3c8-2c95-4b06-b74d-0e4c2ff99e56c/concepts/1558cc01-0d34-44c7-aef9d-61a5687446d4/tabs/054d49d8-8df5-4203-b276-19e25b56cc5f/pages/68583188-8661-44d4-a182-acf9d16a1527">Link</a></td>
</tr>
<tr>
<td>MAFS.K12.MP.6.1</td>
<td>Attend to precision.</td>
<td>Nuclear Chemistry &gt; Matter &gt; Understanding Atoms &gt; Nuclear Chemistry &gt; Explore More Resources &gt; Exploration: Nuclear Forces <a href="https://app.discoveryeducation.com/player/view/assetGuid/e729a3d8-0d12-e4e2-96dd-89148c7925ca">Link</a></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| MAFS.K12.MP.6.1 | Attend to precision. | Measurement  
Energy, Force, and Motion > The Process of Science > Measurement > Explore > Core Interactive Text p2 > Making Accurate and Precise Measurements  
https://app.discoveryeducation.com/learn/techbook/units/95ab3822-f951-4d7c-aad6b-86fc5d517a35/concepts/a8be70be-2051-43c1-82c4-ab703980220d/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/e8b80ee8-c855-4f87-9a88-5f6a14eb494f |
| MAFS.K12.MP.6.1 | Attend to precision. | Measurement  
https://app.discoveryeducation.com/player/view/assetGuid/2f9fccef-7ad5-4c4a-be2b-9afee8bc6061 |
| MAFS.K12.MP.6.1 | Attend to precision. | Measurement  
Energy, Force, and Motion > The Process of Science > Measurement > Evaluate > Constructed Response: Q1: Making Measurements with Precision  
https://app.discoveryeducation.com/player/view/assetGuid/623b5069-cf50-4496-810b-6c186e6f7a6f |
| MAFS.K12.MP.7.1 | Look for and make use of structure. | Newton’s Second Law of Motion  
Energy, Force and Motion > Motion > Newton’s Second Law of Motion > Explore > Explore More Resources > Hands-On Lab: Exploring the Relationship Between Force and Motion  
https://app.discoveryeducation.com/player/view/assetGuid/8eb44a84-2350-423a-a95b-88dc35b37754 |
| MAFS.K12.MP.8.1 | Look for and express regularity in repeated reasoning. | Wave Characteristics  
Energy, Force, and Motion > Energy > Wave Characteristics > Explore > Explore More Resources > Hands-On Lab: Wave Characteristics  
https://app.discoveryeducation.com/player/view/assetGuid/d5712923-81bb-4fb8-bbe8-50f4991e4a5a |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| SC.912.E.7.1   | Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon. | Water  
Chemical Properties and Changes  
Water and Solutions  
Water  
Explore  
Core Interactive Text p2  
The Water Cycle  
[https://app.discoveryeducation.com/learn/techbook/units/23456a3b-039b-4643-8911-e94ee5c5e112/concepts/2225f66b-6c9b-411d-b24c-51570e87001e/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/43b80e21-95b5-4b7b-b5c9-8227c7a45cff](https://app.discoveryeducation.com/learn/techbook/units/23456a3b-039b-4643-8911-e94ee5c5e112/concepts/2225f66b-6c9b-411d-b24c-51570e87001e/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/43b80e21-95b5-4b7b-b5c9-8227c7a45cff) |
| SC.912.E.7.1   | Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon. | Energy for Life  
Energy, Force and Motion  
Energy > Energy for Life > Explore > p6 > What is the Role of Photosynthesis and Respiration in the Carbon Cycle?  
[https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/5b594cf6-64a0-4796-b2e3-13ebbcbddac1/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/b4a90ea7-dfcc-462e-95d9-c8e69d139550](https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/5b594cf6-64a0-4796-b2e3-13ebbcbddac1/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/b4a90ea7-dfcc-462e-95d9-c8e69d139550) |
| SC.912.L.18.12 | Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing, and versatility as a solvent. | Water  
Chemical Properties and Changes  
Water and Solutions  
Water  
Explore  
Core Interactive Text  
[https://app.discoveryeducation.com/learn/techbook/units/23456a3b-039b-4643-8911-e94ee5c5e112/concepts/2225f66b-6c9b-411d-b24c-51570e87001e/tabs/759da9a7-2edf-4cde-9515-7081ca990764](https://app.discoveryeducation.com/learn/techbook/units/23456a3b-039b-4643-8911-e94ee5c5e112/concepts/2225f66b-6c9b-411d-b24c-51570e87001e/tabs/759da9a7-2edf-4cde-9515-7081ca990764) |
| SC.912.L.18.7  | Identify the reactants, products, and basic functions of photosynthesis. | Energy for Life  
Energy, Force and Motion  
Energy > Energy for Life > Explore > p6 > What is the Role of Photosynthesis and Respiration in the Carbon Cycle?  
[https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/5b594cf6-64a0-4796-b2e3-13ebbcbddac1/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/b4a90ea7-dfcc-462e-95d9-c8e69d139550](https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/5b594cf6-64a0-4796-b2e3-13ebbcbddac1/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/b4a90ea7-dfcc-462e-95d9-c8e69d139550) |
| SC.912.L.18.8  | Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration. | Energy for Life  
Energy, Force and Motion  
Energy > Energy for Life > Explore > p6 > What is the Role of Photosynthesis and Respiration in the Carbon Cycle?  
[https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/5b594cf6-64a0-4796-b2e3-13ebbcbddac1/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/b4a90ea7-dfcc-462e-95d9-c8e69d139550](https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/5b594cf6-64a0-4796-b2e3-13ebbcbddac1/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/b4a90ea7-dfcc-462e-95d9-c8e69d139550) |
| SC.912.N.1.1   | Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: | Heat  
[https://app.discoveryeducation.com/player/view/assetGuid/eaa3ab8ee-c66a-41b6-a3fc-dff13776a22](https://app.discoveryeducation.com/player/view/assetGuid/eaa3ab8ee-c66a-41b6-a3fc-dff13776a22) |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC.912.N.1.1</td>
<td>Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts).</td>
<td>Using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Methods &gt; Elaborate &gt; STEM in Action &gt; Technology Enhanced Item: A Dangerous Trend <a href="https://app.discoveryeducation.com/learn/techbook/units/95ab3822-f931-4d7c-a96b-8fd5d517a35/concepts/a7e0f6b6-68e0-4960-9401-6319e7e30be5/tabs/054d49d8-d8f5-4203-b276-19e225b56cc5f">https://app.discoveryeducation.com/learn/techbook/units/95ab3822-f931-4d7c-a96b-8fd5d517a35/concepts/a7e0f6b6-68e0-4960-9401-6319e7e30be5/tabs/054d49d8-d8f5-4203-b276-19e225b56cc5f</a></td>
</tr>
<tr>
<td>SC.912.N.1.1</td>
<td>Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable.</td>
<td>Periodic Trends Chemical Properties and Changes &gt; Introducing the Periodic Table &gt; Periodic Trends &gt; Explore &gt; Explore More Resources &gt; Hands-On Lab: Periodic Trends <a href="https://app.discoveryeducation.com/player/view/assetGuid/2b6238f5-9e8a-49bc-8bab-12d2c2fec185">https://app.discoveryeducation.com/player/view/assetGuid/2b6238f5-9e8a-49bc-8bab-12d2c2fec185</a></td>
</tr>
<tr>
<td>SC.912.N.1.1</td>
<td>Conduct systematic observations, (Write procedures that are clear and replicable. Identify observables and examine relationships between test (independent) variable and outcome (dependent) variable.</td>
<td>Understanding and Describing Motion Energy, Force, and Motion &gt; Motion &gt; Understanding and Describing Motion &gt; Explore &gt; Explore More Resources &gt; Hands-On Lab: Understanding and Describing Motion <a href="https://app.discoveryeducation.com/player/view/assetGuid/aca982f0-58a8-4634-a3fe-f2b46b801758">https://app.discoveryeducation.com/player/view/assetGuid/aca982f0-58a8-4634-a3fe-f2b46b801758</a></td>
</tr>
<tr>
<td>SC.912.N.1.1</td>
<td>Employ appropriate methods for accurate and consistent observations conduct and record measurements at appropriate levels of precision. Follow safety guidelines.</td>
<td>Electric Circuits Matter &gt; Electromagnetism &gt; Electric Circuits &gt; Explore &gt; Explore More Resources &gt; Hands-On Lab: Electric Circuits. <a href="https://app.discoveryeducation.com/player/view/assetGuid/7361e746-1b72-4eb1-96e4-7aa7e7c01fe">https://app.discoveryeducation.com/player/view/assetGuid/7361e746-1b72-4eb1-96e4-7aa7e7c01fe</a></td>
</tr>
<tr>
<td>SC.912.N.1.1</td>
<td>Pose questions about the natural world, (Articulate the purpose of the investigation and identify the relevant scientific concepts).</td>
<td>Covalent Bonding Chemical Properties and Changes &gt; Chemical Bonding &gt; Covalent Bonding &gt; Explore &gt; Explore More Resources &gt; Hands-On Lab: Toying with Bonds <a href="https://app.discoveryeducation.com/player/view/assetGuid/4b8ad2bd-5b56-467e-a9bd-6ee27d8b16ca">https://app.discoveryeducation.com/player/view/assetGuid/4b8ad2bd-5b56-467e-a9bd-6ee27d8b16ca</a></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SC.912.N.1.1</td>
<td>Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: Examine books and other sources of information to see what is already known, Review what is known in light of empirical evidence, (Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models).</td>
<td>Using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Methods &gt; Elaborate &gt; STEM Project Starter: Loads of Pressure <a href="https://app.discoveryeducation.com/learn/techbook/units/95ab1822-f921-4d7c-a66b-8f6c5d517a35/concepts/a7e0fb6c-68e0-4960-9401-6319e7e30be5/tabs/054d49d8-d8f5-4203-b276-19e25b56cc5f/pages/EAAA78CB-A431-4A03-8820-8387D9EB67E">https://app.discoveryeducation.com/learn/techbook/units/95ab1822-f921-4d7c-a66b-8f6c5d517a35/concepts/a7e0fb6c-68e0-4960-9401-6319e7e30be5/tabs/054d49d8-d8f5-4203-b276-19e25b56cc5f/pages/EAAA78CB-A431-4A03-8820-8387D9EB67E</a></td>
</tr>
<tr>
<td>SC.912.N.1.1</td>
<td>Plan investigations, (Design and evaluate a scientific investigation). Use tools to gather, analyze, and interpret data (this includes the use of measurement in metric and other systems, and also the generation and interpretation of graphical representations of data, including data tables and graphs), (Collect data or evidence in an organized way. Properly use instruments, equipment, and materials (e.g., scales, probeware, meter sticks, microscopes, computers) including set-up, calibration, technique, maintenance, and storage).</td>
<td>Electric Circuits Matter &gt; Electromagnetism &gt; Electric Circuits &gt; Explore &gt; Explore More Resources &gt; Hands-On Lab: Electric Circuits. <a href="https://gtm-media.discoveryeducation.com/videos/DSC/data/DE_TX_AL_Phys_ElectricCircuits_HOL_TG_InteractionsMatterEnergy_FINAL.pdf">https://gtm-media.discoveryeducation.com/videos/DSC/data/DE_TX_AL_Phys_ElectricCircuits_HOL_TG_InteractionsMatterEnergy_FINAL.pdf</a></td>
</tr>
<tr>
<td>SC.912.N.1.1</td>
<td>Pose answers, explanations, or descriptions of events, Generate explanations that explicate or describe natural phenomena (inferences), Use appropriate evidence and reasoning to justify these explanations to others, Communicate results of scientific investigations, and Evaluate the merits of the explanations produced by others.</td>
<td>Electric and Magnetic Fields Matter &gt; Electromagnetism &gt; Electric and Magnetic Fields &gt; Explore &gt; Explore More Resources &gt; Hands-On Lab: Drawing Electric and Magnetic Fields. <a href="https://app.discoveryeducation.com/player/view/assetGuid/f25a448c-adf9-42f5-af00-2b4600b769a9">https://app.discoveryeducation.com/player/view/assetGuid/f25a448c-adf9-42f5-af00-2b4600b769a9</a></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SC.912.N.1.1</td>
<td>Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following: Examine books and other sources of information to see what is already known, Review what is known in light of empirical evidence, {Examine whether available empirical evidence can be interpreted in terms of existing knowledge and models, and if not, modify or develop new models.}</td>
<td>Classification of Matter Matter &gt; Behavior of Matter &gt; Classification of Matter Matter &gt; Elaborate &gt; STEM Project Start: Purifying Polluted Water <a href="https://app.discoveryeducation.com/learn/techbook/units/750b6a64-7f9e-4456-bc96-7f7cbf6a232a7/concepts/15206787-c5a4-4506-b014-82e1d56d8057/tabs/05449d8-d8f5-4203-b276-19e25b56cc5f/pages/02AC4AAAB-F29F-4083-810E-7DD445A8084f">https://app.discoveryeducation.com/learn/techbook/units/750b6a64-7f9e-4456-bc96-7f7cbf6a232a7/concepts/15206787-c5a4-4506-b014-82e1d56d8057/tabs/05449d8-d8f5-4203-b276-19e25b56cc5f/pages/02AC4AAAB-F29F-4083-810E-7DD445A8084f</a></td>
</tr>
<tr>
<td>SC.912.N.1.2</td>
<td>Describe and explain what characterizes science and its methods.</td>
<td>Using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Methods &gt; Explore &gt; Core Interactive Text p1-8 <a href="https://app.discoveryeducation.com/learn/techbook/units/95ab1822-ff91-4d7c-aa6b-8fdc5d517a35/concepts/a7e0fb6c-68e0-4960-9401-6319e7e30be5/tabs/759da9a7-2edf-4cde-9515-7081ca990764">https://app.discoveryeducation.com/learn/techbook/units/95ab1822-ff91-4d7c-aa6b-8fdc5d517a35/concepts/a7e0fb6c-68e0-4960-9401-6319e7e30be5/tabs/759da9a7-2edf-4cde-9515-7081ca990764</a></td>
</tr>
<tr>
<td>SC.912.N.1.3</td>
<td>Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</td>
<td>Reaction Rate Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Reaction Rate &gt; Explain <a href="https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19e813b350fb/concepts/d0a84c06-427a-4fb8-b8b8-b6695c8415739/tabs/0df56444-5400-41eb-a6ce-de52b7efb950">https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19e813b350fb/concepts/d0a84c06-427a-4fb8-b8b8-b6695c8415739/tabs/0df56444-5400-41eb-a6ce-de52b7efb950</a></td>
</tr>
<tr>
<td>SC.912.N.1.3</td>
<td>Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</td>
<td>Conductor and Insulators Matter &gt; Electromagnetism &gt; Conductor and Insulators &gt; Explain <a href="https://app.discoveryeducation.com/learn/techbook/units/c595b42a-94c6-4562-8fde-8f8c44b84a08/concepts/c1d7c942-a8e3-4257-8aa2-9c8badf11b12/tabs/0df56444-5400-41eb-a6ce-de52b7efb950">https://app.discoveryeducation.com/learn/techbook/units/c595b42a-94c6-4562-8fde-8f8c44b84a08/concepts/c1d7c942-a8e3-4257-8aa2-9c8badf11b12/tabs/0df56444-5400-41eb-a6ce-de52b7efb950</a></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| SC.912.N.1.4   | Identify sources of information and assess their reliability according to the strict standards of scientific investigation. | Reaction Rate  
Chemical Properties and Changes  
> Chemical Reactions and Equations  
> Reaction Rate  
> Explain  
| SC.912.N.1.5   | Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome. | Chemical Reactions and Equations  
> Explore  
Explore More Resources  
> Reading Passage: How Did They Discover Steel?  
(They Smelt It)  
https://app.discoveryeducation.com/player/view/assetGuid/da34d653-1db3-4046-9d54-09f0551d96a3 |
| SC.912.N.1.6   | Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied. | Electric Forces  
Energy, Force and Motion  
> Force  
> Electric Forces  
> Explore  
> Explore More Resources  
> Reading Passage: Faraday Follows in Franklin’s Footsteps  
https://app.discoveryeducation.com/player/view/assetGuid/c347afcf-3b2c-4f75-b4e4-1e28e87c12e8 |
| SC.912.N.1.6   | Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied. | Observations vs Inferences  
Energy, Force and Motion  
The Process of Science  
> Observations and Inferences  
> Explore  
> Core Interactive Text p1  
> What is the difference between an observation and an inference?  
https://app.discoveryeducation.com/learn/techbook/units/95ab1822-f9f1-4d7c-a66b-8fdd5d517a35/concepts/46df2a4b-ff99-4b6e-94a8-c8172df8e90c/tabs/759da9a7-2edf-4cde-9515-7081ca990764 |
| SC.912.N.1.6   | Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied. | Observations vs Inferences  
Energy, Force and Motion  
The Process of Science  
> Observations and Inferences  
> Evaluate  
> Constructed Response: Observations vs Inferences  
https://app.discoveryeducation.com/player/view/assetGuid/b5f0201c-cea0-49b0-bafe-c24b7dc8d993 |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| SC.912.N.1.7   | Recognize the role of creativity in constructing scientific questions, methods and explanations. | Wave Characteristics  
Energy, Force, and Motion > Energy > Wave Characteristics > Explore > Explore More Resources > Reading Passage: The View Is Never the Same . . .
https://app.discoveryeducation.com/player/view/assetGuid/6d4bb5b-74ca-4d6d-8e3f-85d31914f1ca |
| SC.912.N.2.1   | Identify what is science, what clearly is not science, and what superficially resembles science (but fails to meet the criteria for science). | Using Scientific Methods  
Using Scientific Methods > Explore > Explore More Resources > Reading Passage: What Is Science?
https://app.discoveryeducation.com/player/view/assetGuid/322310db-f74c-4aed-a120-515bc1cd3414 |
| SC.912.N.2.2   | Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion. | Using Scientific Methods  
Using Scientific Methods > Elaborate > STEM Project Starters > Can Robots Become Human?
https://app.discoveryeducation.com/learn/techbook/units/95ab1822-f91-4d7c-a6b-86c5d573a35/concepts/a7e0f6c-68e0-4960-9401-6319e7e33be5/tabs/054d98b-8c75-4203-b276-19e23b366c5f/pages/05d15058-7dd4-4fb5-a918-042833bd963 |
| SC.912.N.2.3   | Identify examples of pseudoscience (such as astrology, phrenology) in society. | Nuclear Chemistry  
Matter > Understanding Atoms > Nuclear Chemistry > Explore > Explore More Resources > Reading Passage: Fusion Confusion
https://app.discoveryeducation.com/player/view/assetGuid/2f20b24d-262d-4084-9afe-694555a2a2aa |
| SC.912.N.2.4   | Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability. | Using Scientific Methods  
Energy, Force and Motion > The Process of Science > Using Scientific Methods > Explore > Core Interactive Text p8
https://app.discoveryeducation.com/learn/techbook/units/95b1822-f91-4d7c-a6b-86c5d573a35/concepts/a7e0f6c-68e0-4960-9401-6319e7e33be5/tabs/759da9a7-2edf-4cde-9515-7081ca900764/pages/05d15058-7dd4-4fb5-a918-042833bd963 |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC.912.N.2.5</td>
<td>Describe instances in which scientists’ varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.</td>
<td>Development of the Periodic Table</td>
</tr>
<tr>
<td>SC.912.N.3.1</td>
<td>Explain that a scientific theory is the culmination of many scientific investigations drawing together all the current evidence concerning a substantial range of phenomena thus, a scientific theory represents the most powerful explanation scientists have to offer.</td>
<td>Using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Methods &gt; Explore &gt; p8</td>
</tr>
<tr>
<td>SC.912.N.3.2</td>
<td>Describe the role consensus plays in the historical development of a theory in any one of the disciplines of science.</td>
<td>Development of the Atomic Theory Matter &gt; Understanding Atoms &gt; Development of the Atomic Theory &gt; Explore &gt; Core Interactive Text</td>
</tr>
<tr>
<td>SC.912.N.3.3</td>
<td>Explain that scientific laws are descriptions of specific relationships under given conditions in nature, but do not offer explanations for those relationships.</td>
<td>Using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Methods &gt; Explore &gt; p8</td>
</tr>
<tr>
<td>SC.912.N.3.4</td>
<td>Recognize that theories do not become laws, nor do laws become theories theories are well supported explanations and laws are well supported descriptions.</td>
<td>Using Scientific Methods Energy, Force and Motion &gt; The Process of Science &gt; Using Scientific Methods &gt; Explore &gt; p8</td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| SC.912.N.3.5   | Describe the function of models in science, and identify the wide range of models used in science. | Development of the Atomic Theory  
Matter > Understanding Atoms > Development of the Atomic Theory > Explore > Explore More Resources > Exploration: Development of Atomic Theory  
https://app.discoveryeducation.com/player/view/assetGuid/70f5ee14-3fa9-4e22-8b9a-04699c875ded |
| SC.912.N.3.5   | Describe the function of models in science, and identify the wide range of models used in science. | Using Scientific Methods  
Energy, Force and Motion > The Process of Science > Using Scientific Methods > Explore > Explore More resources > Video: Model  
https://app.discoveryeducation.com/player/view/assetGuid/26dd4279-9798-42b5-ae0f-fcf1eaedd8f8 |
| SC.912.N.4.1   | Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making. | Nuclear Chemistry  
Matter > Understanding Atoms > Nuclear Chemistry > Explore > Elaborate > STEM Project: Nuclear Energy  
https://app.discoveryeducation.com/learn/techbook/units/8e63b3c8-2c95-4b06-b74d-0e42f99e56c/concepts/1558cc01-0d34-4cc7-ae9d-61a5e687446c/tabs/054d49d8-d8f5-4203-b276-19e25b56c5f/pages/0906f376-7025-4e27-aad0-66ff2bb94a72 |
| SC.912.N.4.2   | Weigh the merits of alternative strategies for solving a specific societal problem by comparing a number of different costs and benefits, such as human, economic, and environmental. | Nuclear Chemistry  
Matter > Understanding Atoms > Nuclear Chemistry > Explore > Elaborate > STEM Project: Nuclear Energy  
https://app.discoveryeducation.com/learn/techbook/units/8e63b3c8-2c95-4b06-b74d-0e42f99e56c/concepts/1558cc01-0d34-4cc7-ae9d-61a5e687446c/tabs/054d49d8-d8f5-4203-b276-19e25b56c5f/pages/0906f376-7025-4e27-aad0-66ff2bb94a72 |
| SC.912.P.10.1  | Differentiate among the various forms of energy and recognize that they can be transformed from one form to others. | Types of Energy  
Energy, Force and Motion > Energy > Types of Energy > Explore > Core Interactive Text p1 & 2  
https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2b68a81/concepts/d0d24a47-4c7e-477a-9b3a-672c76331467/tabs/755da9a7-2edf-4cde-9513-7081ca990764 |
| SC.912.P.10.1  | Differentiate among the various forms of energy and recognize that they can be transformed from one form to others. | Types of Energy  
Energy, Force and Motion > Energy > Types of Energy > Explore > Explore More Resources > Exploration > Types of Energy  
https://app.discoveryeducation.com/player/view/assetGuid/293b465e-f3c6-44cc-a26f-19445bf6e343 |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| SC.912.P.10.1 | Differentiate among the various forms of energy and recognize that they can be transformed from one form to others. | Conservation of Energy  
| SC.912.P.10.10 | Compare the magnitude and range of the four fundamental forces (gravitational, electromagnetic, weak nuclear, strong nuclear). | Fundamental Forces  
Energy, Force and Motion > Force > Fundamental Forces > Explore > Exploration: Conservation of Energy <br>https://app.discoveryeducation.com/player/view/assetGuid/6c2e04b7-0e6c-4854-9e6c-e9c1eeb33396 |
| SC.912.P.10.12 | Differentiate between chemical and nuclear reactions. | Nuclear Chemistry  
Matter > Understanding Atoms > Nuclear Chemistry > Evaluate > Constructed Response: Nuclear Chemistry > Nuclear Chemistry Evaluation <br>https://app.discoveryeducation.com/learn/techbook/units/8e63b3c8-2c95-4b06-b74d-04c2f99e56c/concepts/1558cc01-0d34-4cc7-a9d6-61a56874464c/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/f68e8407-9985-49f1-a96d-5bab1099fc53 |
| SC.912.P.10.12 | Differentiate between chemical and nuclear reactions. | Nuclear Chemistry  
| SC.912.P.10.14 | Differentiate among conductors, semiconductors, and insulators. | Conductors and Insulators  
Matter > Electromagnetism > Conductors and Insulators > Explore > Core Interactive Text p1 > Conductors and Insulators <br>https://app.discoveryeducation.com/learn/techbook/units/c595b42a-94c6-4562-8fde-8dfc4a8a40b/concepts/c1d7c942-a8e3-4257-8aa2-9c8badf11b12/tabs/759da9a7-2edf-4cde-9515-7081ca990764 |
| SC.912.P.10.14 | Differentiate among conductors, semiconductors, and insulators. | Conductors and Insulators  
Matter > Electromagnetism > Conductors and Insulators > Explore > Hands-On Lab: Conductors and Insulators <br>https://app.discoveryeducation.com/player/view/assetGuid/e5e5ceb5-57ac-4a35-9b99-dff9e903706d |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| SC.912.P.10.14 | Differentiate among conductors, semiconductors, and insulators. | Conductors and Insulators  
Matter > Electromagnetism > Conductors and Insulators > Explore > Explore More Resources > Exploration: Conductors and Insulators  
https://app.discoveryeducation.com/player/view/assetGuid/3a1bdf3-aa3c-4819-8324-c6e1c0ac1902 |
| SC.912.P.10.15 | Investigate and explain the relationships among current, voltage, resistance, and power. | Electric Circuits  
https://app.discoveryeducation.com/player/view/assetGuid/7361e746-1b72-4eb1-96e4-7aa7d7cd06ea |
| SC.912.P.10.15 | Investigate and explain the relationships among current, voltage, resistance, and power. | Electric Circuits  
Matter > Electromagnetism > Electric Circuits > Explore > Explore More Resources > Activity: Different Equations for Parallel Circuits  
| SC.912.P.10.15 | Investigate and explain the relationships among current, voltage, resistance, and power. | Electric Circuits  
Matter > Electromagnetism > Electric Circuits > Explore > Core Interactive Text p4 > How can you determine the relationship between power and resistance in a circuit?  
https://app.discoveryeducation.com/learn/techbook/units/c595b42a-94c6-4562-8fde-8fcd4bbda0fe/concepts/9a222479-0e4e-4d0e-8ea9-945cc207/tabs/759da9a7-2edf-4cede-9515-7081ca990764/pages/89ecb12f-4e1b-49a5-9606-6effe534d4a |
| SC.912.P.10.18 | Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications. | Wave Characteristics  
Energy, Force, and Motion > Energy > Wave Characteristics > Explore > Core Interactive Text p8 > What are the different wavelength bands of the electromagnetic spectrum?  
https://app.discoveryeducation.com/learn/techbook/units/8c227bb0-2523-4489-b6cd-6262dd2bb6a81/concepts/3ce8f76c-9-8127-46e2-9cede-62fe20ea67aeeccf/tabs/759da9a7-2edf-4cede-9515-7081ca990764/pages/5318c220-5b9a-4a4b-955c-3ed34c4ff |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC.912.P.10.18</td>
<td>Explore the theory of electromagnetism by comparing and contrasting the different parts of the electromagnetic spectrum in terms of wavelength, frequency, and energy, and relate them to phenomena and applications.</td>
<td>Wave Characteristics Energy, Force, and Motion Energy &gt; Wave Characteristics Explore &gt; Core Interactive Text p12 What are some medical or industrial applications of different electromagnetic waves? <a href="https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/3ce8fd9c-9127-46e2-9cfd-20ea67aeccf7/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/b5edbad4-0c3f-4fc9-8695-c8d7e1db70b1">Link</a></td>
</tr>
<tr>
<td>SC.912.P.10.21</td>
<td>Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.</td>
<td>Wave Characteristics Energy, Force, and Motion Energy &gt; Wave Characteristics Explore &gt; Core Interactive Text p10 What is the Doppler effect and how does it relate to the frequency of a wave? <a href="https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/3ce8fd9c-9127-46e2-9cfd-20ea67aeccf7/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/7e25723b-6d3c-4b64-b83f-9e8fcd8b3e2c">Link</a></td>
</tr>
<tr>
<td>SC.912.P.10.21</td>
<td>Qualitatively describe the shift in frequency in sound or electromagnetic waves due to the relative motion of a source or a receiver.</td>
<td>Wave Characteristics Energy, Force, and Motion Energy &gt; Wave Characteristics Explore &gt; Core Interactive Text p10 What is the Doppler effect and how does it relate to the frequency of a wave? <a href="https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/3ce8fd9c-9127-46e2-9cfd-20ea67aeccf7/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/7e25723b-6d3c-4b64-b83f-9e8fcd8b3e2c">Link</a></td>
</tr>
<tr>
<td>SC.912.P.10.3</td>
<td>Compare and contrast work and power qualitatively and quantitatively.</td>
<td>Work and Power Energy, Force, and Motion Motion &gt; Work and Power Explore &gt; Explore More Resources <a href="https://app.discoveryeducation.com/learn/techbook/units/7c19f365-b504-461a-b342-c4cc9b3be2c5/concepts/dfc97221c-c184-46fc-ad72-49164cecc93a/tabs/759da9a7-2edf-4cde-9515-7081ca990764">Link</a></td>
</tr>
<tr>
<td>SC.912.P.10.4</td>
<td>Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.</td>
<td>Heat Energy, Force, and Motion Energy &gt; Heat &gt; Explore &gt; Core Interactive Text p5 &gt; Three Methods of Heat Transfer <a href="https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/a5bbe30-5086-4751-8235-659cbdbd9b0f/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/489321f5-f371-4c53-a7d8-bcbd0be172c7">Link</a></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SC.912.P.10.4</td>
<td>Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.</td>
<td>Heat Energy, Force, and Motion &gt; Energy &gt; Heat &gt; Explore &gt; Core Interactive Text p4 &gt; How Does Thermal Energy Transfer (Heat) Cause Substances to Change State. <a href="https://app.discoveryeducation.com/learn/techbook/units/8c22f8b0-2523-4489-b6cd-6262d2bb6a81/concepts/af5bec30-5086-4751-8235-659cbb4db90f/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/1a17d213-8797-4b9b-bcdd-7cf11f25d509">Link</a></td>
</tr>
<tr>
<td>SC.912.P.10.5</td>
<td>Relate temperature to the average molecular kinetic energy.</td>
<td>Gas Laws &gt; Matter &gt; Behavior of Matter &gt; Gas Laws &gt; Explore &gt; Core Interactive Text p2 &gt; Charles Law. <a href="https://app.discoveryeducation.com/learn/techbook/units/750b6a64-7f96-4456-bc96-f7cb6a232a7/concepts/39d769e3-3c50-44df-9e07-03562e99e22/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/51f0ec6d-ab4e-4b49-abc7-e5f7ca5ce6b">Link</a></td>
</tr>
<tr>
<td>SC.912.P.10.7</td>
<td>Distinguish between endothermic and exothermic chemical processes.</td>
<td>Thermochemistry &gt; Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Thermochemistry &gt; Explore &gt; Explore More Resources &gt; Enthalpy of Neutralization. <a href="https://app.discoveryeducation.com/player/view/assetGuid/917996b0-7b41-42a4-b2fa-1aca8387966b">Link</a></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>SC.912.P.10.7</td>
<td>Distinguish between endothermic and exothermic chemical processes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thermochemistry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Thermochemistry &gt; Evaluate &gt; Constructed Response: Thermochemistry</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="https://app.discoveryeducation.com/player/view/assetGuid/0c7e29e3-bd70-4965-b87c-6a27e5ce7ab6">https://app.discoveryeducation.com/player/view/assetGuid/0c7e29e3-bd70-4965-b87c-6a27e5ce7ab6</a></td>
<td></td>
</tr>
<tr>
<td>SC.912.P.12.10</td>
<td>Interpret the behavior of ideal gases in terms of kinetic molecular theory.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gas Laws</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Matter &gt; Behavior of Matter &gt; Gas Laws &gt; Explore &gt; p4 &gt; The Ideal Gas Law</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="https://app.discoveryeducation.com/learn/techbook/units/750b6a64-7f96-4456-bc96-f7c6f0232a7/concepts/39d769e3-3c50-44df-9e07-03562e99e22/tabs/759da9a7-2edf-4cede-9515-7081ca990764/pages/ff9633c-d383-4fcf-b6dd-3ebbbbfc057c1">https://app.discoveryeducation.com/learn/techbook/units/750b6a64-7f96-4456-bc96-f7c6f0232a7/concepts/39d769e3-3c50-44df-9e07-03562e99e22/tabs/759da9a7-2edf-4cede-9515-7081ca990764/pages/ff9633c-d383-4fcf-b6dd-3ebbbbfc057c1</a></td>
<td></td>
</tr>
<tr>
<td>SC.912.P.12.10</td>
<td>Interpret the behavior of ideal gases in terms of kinetic molecular theory.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gas Laws</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Matter &gt; Behavior of Matter &gt; Gas Laws &gt; Explore &gt; Explore More Resources &gt; Activity: Ideal Gas Law</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="https://app.discoveryeducation.com/player/view/assetGuid/44C60DD4-6E58-4504-B824-873874D2DBF">https://app.discoveryeducation.com/player/view/assetGuid/44C60DD4-6E58-4504-B824-873874D2DBF</a></td>
<td></td>
</tr>
<tr>
<td>SC.912.P.12.12</td>
<td>Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reaction Rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Reaction Rate &gt; Explore &gt; Core Interactive Text p1 &gt; Factors that Influence Reaction Rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19eb813b50fb/concepts/d0a84c06-422a-4fbb-b88b-6695c8415739/tabs/759da9a7-2edf-4cede-9515-7081ca990764">https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19eb813b50fb/concepts/d0a84c06-422a-4fbb-b88b-6695c8415739/tabs/759da9a7-2edf-4cede-9515-7081ca990764</a></td>
<td></td>
</tr>
<tr>
<td>SC.912.P.12.12</td>
<td>Explain how various factors, such as concentration, temperature, and presence of a catalyst affect the rate of a chemical reaction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reaction Rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chemical Properties and Changes &gt; Chemical Reactions and Equations &gt; Reaction Rate &gt; Explore &gt; Explore More Resources &gt; Exploration: Reaction Rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="https://app.discoveryeducation.com/player/view/assetGuid/74f71e73-c355-4957-a34f-b05a389e017">https://app.discoveryeducation.com/player/view/assetGuid/74f71e73-c355-4957-a34f-b05a389e017</a></td>
<td></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| SC.912.P.12.2  | Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time. | Understanding and Describing Motion  
Energy, Force and Motion > Motion > Understanding and Describing Motion > Explore > Core Interactive Text p1 > What Are Frames of Reference and How do they Related to Motion  
https://app.discoveryeducation.com/learn/techbook/units/7c19f365-b504-461a-b342-c4cc9b3be2c5/concepts/cb93798e-3021-48d2-8426-81a01c385789/tabs/759da9a7-2edf-4cde-9515-7081ca990764 |
| SC.912.P.12.2  | Analyze the motion of an object in terms of its position, velocity, and acceleration (with respect to a frame of reference) as functions of time. | Understanding and Describing Motion  
Energy, Force and Motion > Motion > Understanding and Describing Motion > Explore > More resources > Exploration: Understanding and Describing Motion  
https://app.discoveryeducation.com/player/view/assetGuid/ac982fd-58a8-4634-a3fe-f2b46b801758 |
| SC.912.P.12.3  | Interpret and apply Newton's three laws of motion. | Newton’s First Law of Motion  
Energy, Force and Motion > Motion > Newton’s First Law of Motion > Explore > More Resources > Exploration: Newtons’ First Law of Motion  
https://app.discoveryeducation.com/player/view/assetGuid/ae61849f-2c8a-4603-a541-f7394d6e36d7 |
| SC.912.P.12.3  | Interpret and apply Newton’s three laws of motion. | Newton’s Second Law of Motion  
Energy, Force and Motion > Motion > Newton’s Second Law of Motion > Explore > Core Interactive Text p2  
https://app.discoveryeducation.com/learn/techbook/units/7c19f365-b504-461a-b342-c4cc9b3be2c5/concepts/ca17651a-a1fe-40b4-aa34-3c576600035b2/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/b7d07c1a-88f7-4a8f-ab4f-2067232a9669 |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC.912.P.12.3</td>
<td>Interpret and apply Newton’s three laws of motion.</td>
<td>Newton’s Second Law of Motion Energy, Force and Motion &gt; Motion &gt; Newton’s Second Law of Motion &gt; Explore &gt; Explore More Resources &gt; Exploration &gt; Newton’s Second Law of Motion</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="https://app.discoveryeducation.com/player/view/assetGuid/2a0c3114-85a1-4d85-847c-0d7a9a540178">https://app.discoveryeducation.com/player/view/assetGuid/2a0c3114-85a1-4d85-847c-0d7a9a540178</a></td>
</tr>
<tr>
<td>SC.912.P.12.3</td>
<td>Interpret and apply Newton’s three laws of motion.</td>
<td>Newton’s Third Law of Motion Energy, Force, and Motion &gt; Motion &gt; Newton’s Third Law of Motion &gt; Explore &gt; Explore More Resources &gt; Hands-On Lab: Pulling on Strings</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="https://gtml-media.discoveryeducation.com/videos/DSC/data/PHYS_Motion_NewtonsThirdLawMotion_TeacherHOL_FINAL_JMS_SRM_NEW_rev.pdf">https://gtml-media.discoveryeducation.com/videos/DSC/data/PHYS_Motion_NewtonsThirdLawMotion_TeacherHOL_FINAL_JMS_SRM_NEW_rev.pdf</a></td>
</tr>
<tr>
<td>SC.912.P.12.3</td>
<td>Interpret and apply Newton’s three laws of motion.</td>
<td>Applying Newton’s Laws of Motion Energy, Force, and Motion &gt; Motion &gt; Applying Newton’s Laws of Motion &gt; Explore &gt; Explore More Resources &gt; Exploration: Applying Newton’s Laws of Motion</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="https://app.discoveryeducation.com/player/view/assetGuid/0d64b22c-d653-4392-a041-13f6ebe0f8d">https://app.discoveryeducation.com/player/view/assetGuid/0d64b22c-d653-4392-a041-13f6ebe0f8d</a></td>
</tr>
<tr>
<td>SC.912.P.12.4</td>
<td>Describe how the gravitational force between two objects depends on their masses and the distance between them.</td>
<td>Gravity Energy, Force and Motion &gt; Force &gt; Gravity &gt; Elaborate &gt; Constructed Response: Gravity</td>
</tr>
<tr>
<td>SC.912.P.12.4</td>
<td>Describe how the gravitational force between two objects depends on their masses and the distance between them.</td>
<td>Gravity Energy, Force and Motion &gt; Force &gt; Gravity &gt; Explore &gt; Explore More Resources &gt; Exploration &gt; Gravity</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="https://app.discoveryeducation.com/player/view/assetGuid/54fd9b23-0e93-49f5-b111-fb7e097922">https://app.discoveryeducation.com/player/view/assetGuid/54fd9b23-0e93-49f5-b111-fb7e097922</a></td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SC.912.P.12.7</td>
<td>Recognize that nothing travels faster than the speed of light in vacuum which is the same for all observers no matter how they or the light source are moving.</td>
<td>Wave Characteristics Energy, Force, and Motion &gt; Energy &gt; Wave Characteristics &gt; Explore &gt; Core interactive Text p5.</td>
</tr>
<tr>
<td>SC.912.P.8.11</td>
<td>Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.</td>
<td>Acids Bases and Salts Chemical Properties and Changes &gt; Water and Solutions &gt; Acids Bases and Salts &gt; Explore &gt; Core Interactive Text p1 &gt; Acid and Base Theories</td>
</tr>
<tr>
<td>SC.912.P.8.11</td>
<td>Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH.</td>
<td>Acids Bases and Salts Chemical Properties and Changes &gt; Water and Solutions &gt; Acids, Bases and Salts &gt; Explore &gt; Core Interactive Text p7 &gt; What are pH and pOH</td>
</tr>
<tr>
<td>BENCHMARK CODE</td>
<td>BENCHMARK</td>
<td>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| SC.912.P.8.2   | Differentiate between physical and chemical properties and physical and chemical changes of matter. | Chemical and Physical Properties and Changes  
Matter > Behavior of Matter >  
Chemical and Physical Properties and Changes > Explore > Core  
Interactive Text p1 > Physical and Chemical Properties  
[Link](https://app.discoveryeducation.com/learn/techbook/units/750b6a64-7f96-4456-bc96-f7cb6e232a7/concepts/b7e0a807-e678-4688-8ca0-90e35c9a55c4/tabs/759da9a7-2edf-4cde-9515-7081ca990764) |
| SC.912.P.8.2   | Differentiate between physical and chemical properties and physical and chemical changes of matter. | Chemical and Physical Properties and Changes  
Matter > Behavior of Matter >  
Chemical and Physical Properties and Changes > Explore > Explore More Resources > Exploration: Chemical and Physical Properties and Changes  
[Link](https://app.discoveryeducation.com/player/view/assetGuid/47127c45-8a0d-47f6-b99a-13b3ff621bcc) |
| SC.912.P.8.2   | Differentiate between physical and chemical properties and physical and chemical changes of matter. | Chemical and Physical Properties and Changes  
Matter > Behavior of Matter >  
Chemical and Physical Properties and Changes > Explore > Explore More Resources > Hands-On Lab: Chemical and Physical Properties and Changes  
[Link](https://app.discoveryeducation.com/player/view/assetGuid/174c447e-7730-4da9-8424-b3892b167fec) |
| SC.912.P.8.4   | Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom. | Parts of the Atom  
Matter > Understanding Atoms > Parts of the Atom > Explore > Core Interactive Text p1.> Protons, Neutrons and Electrons  
[Link](https://app.discoveryeducation.com/learn/techbook/units/8e63b3c8-2c95-4b06-b74d-0e4c2f99e56c/concepts/b6933f2e-81d6-4b36-8f1f-0bf8399d2863/tabs/759da9a7-2edf-4cde-9515-7081ca990764) |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
</tr>
</thead>
</table>
| SC.912.P.8.5   | Relate properties of atoms and their position in the periodic table to the arrangement of their electrons. | Periodic Trends
Chemical Properties and Changes
> Introducing the Periodic Table
> Periodic Trends
> Explore
> Core Interactive Text p2
> How can the observed periodic trends in reactivity of the elements be explained? [Link](https://app.discoveryeducation.com/learn/techbook/units/aa596fc3-8856-4395-886f-5e368379fc60/concepts/c29850a7-4557-4bab-bddc-866c2ce9dd35/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/a927fe34-a7ed-4e99-92f9-12e3252ab9d4) |
| SC.912.P.8.5   | Relate properties of atoms and their position in the periodic table to the arrangement of their electrons. | Structure of the Periodic Table
Chemical Properties and Changes
> Introducing the Periodic Table
> Structure of the Periodic Table
> Explore
> Core Interactive Text p1
> Metals [Link](https://app.discoveryeducation.com/learn/techbook/units/aa596fc3-8856-4395-886f-5e368379fc60/concepts/8148163a-3023-442b-b1bb-d7b65ae2f3c5/tabs/759da9a7-2edf-4cde-9515-7081ca990764) |
| SC.912.P.8.7   | Interpret formula representations of molecules and compounds in terms of composition and structure. | Chemical Reactions and Equations
Chemical Properties and Changes
> Chemical Reactions and Equations
> Chemical Reactions and Equations
> Explore
> Explore More Resources
> Exploration: Chemical reactions [Link](https://app.discoveryeducation.com/player/view/assetGuid/588ec292-4267-4818-8ab7-68bd8eb9af21) |
| SC.912.P.8.7   | Interpret formula representations of molecules and compounds in terms of composition and structure. | Chemical Reactions and Equations
Chemical Properties and Changes
> Chemical Reactions and Equations
> Chemical Reactions and Equations
> Explore
> Core Interactive Text p3
> Writing and Balancing Chemical Equations [Link](https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19ef813b50fb/concepts/95b34eaf-0130-42b8-89dd-0dcbf276c1e/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/204289e7-a828-49f1-8b4f-3d99c472de0c) |
<table>
<thead>
<tr>
<th>BENCHMARK CODE</th>
<th>BENCHMARK</th>
<th>LESSONS WHERE STANDARD/BENCHMARK IS DIRECTLY ADDRESSED IN MAJOR TOOL (MOST IN-DEPTH COVERAGE LISTED FIRST)</th>
<th></th>
</tr>
</thead>
</table>
| SC.912.P.8.7        | Interpret formula representations of molecules and compounds in terms of composition and structure. | Water  
Chemical Properties and Changes > Water and Solutions > Water > Explore> Core Interactive Text  
https://app.discoveryeducation.com/learn/techbook/units/23456a3b-039b-4643-8911-e94ee5c5e112/concepts/2225f6bb-6c6b-411d-b24c-51570e87001e/tabs/759da9a7-2edf-4cde-9515-7081ca990764 |  |
| SC.912.P.8.8        | Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions. | Chemical Reactions and Equations  
Chemical Properties and Changes > Chemical Reactions and Equations > Chemical Reactions and Equations > Explore > Core Interactive Text p1 > What are the five types of chemical reactions?  
https://app.discoveryeducation.com/learn/techbook/units/61627308-85da-43f8-9d38-19e8b13b30fb/concepts/95b34eaf-0130-42b8-89dd-0d0cbf270c1e/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/137eb4b3-578f-4c83-a539-cf80869cf22d |  |
| SC.912.P.8.8        | Characterize types of chemical reactions, for example: redox, acid-base, synthesis, and single and double replacement reactions. | Acids Bases and Salts  
Chemical Properties and Changes > Water and Solutions > Acids, Bases and Salts > Explore > Core Interactive Text p6 > Buffers and Neutralization  
https://app.discoveryeducation.com/learn/techbook/units/23456a3b-039b-4643-8911-e94ee5c5e112/concepts/f2737116-86ba-4eab-95ed-06ad42a956f5/tabs/759da9a7-2edf-4cde-9515-7081ca990764/pages/237e088f-cc95-4b18-b4ab-4c8524894276 |  |