### NEXT GENERATION SCIENCE STANDARDS ALIGNMENT

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<tr>
<th>Unit/Lesson</th>
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<td><strong>Unit 1</strong></td>
<td>3-5 ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.&lt;br&gt;3-5 ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.&lt;br&gt;3-5 ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.&lt;br&gt;MS-PS2-2. Plan an investigation to provide evidence that the change in an object’s motion depends on the sum of the forces on the object and the mass of the object.</td>
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<td><strong>Unit 3, Lesson 3.1</strong></td>
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| **Unit 3, Lesson 3.2** | 3-5 ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.  
3-5 ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.  
3-5 ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.  
4-PS3.4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another. |
| **Unit 3, Lesson 3.3** | 3-5 ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.  
3-5 ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.  
3-5 ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.  
4 PS3.1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.  
5 PS2.1. Support an argument that the gravitational force exerted by Earth on objects is directed down.  
MS-PS2-2. Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object. |
| **Unit 4, Lesson 4.1** | 3-5 ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.  
3-5 ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.  
3-5 ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.  
5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.  
5-ESS2.2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. |
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| **Unit 4, Lesson 4.2** | 3-5 ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.  
3-5 ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.  
3-5 ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.  
5-PS1-4. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.  
5-PS1-3. Make observations and measurements to identify materials based on their properties. |
| **Unit 4, Lesson 4.3** | 3-5 ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.  
3-5 ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.  
3-5 ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.  
4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.  
MS-LS1-4 Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells. |
| **Unit 5, Lesson 5.1** | 3-5 ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.  
3-5 ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.  
3-5 ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.  
MS-PS2-2 Plan an investigation to provide evidence that the change in an object’s motion depends on the sum of the forces on the object and the mass of the object. |
| **Unit 5, Lesson 5.2** | 3-5 ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.  
3-5 ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.  
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3-5 ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. |
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| Unit 1     | ELA     | RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.  
RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.  
RL.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.  
RL.4.3 Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character’s thoughts, words, or actions).  
SL.4.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others’ ideas and expressing their own clearly.  
SL.4.3 Identify the reasons and evidence a speaker provides to support particular points.  
SL.4.4 Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.  
SL.4.5 Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes. |
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| **Unit 3, Lesson 3.1** | Math | 3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.  
6.RPA.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.  
6.RPA.2 Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.  
6.RPA.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. |
| **Unit 3, Lesson 3.3** | Math | 5.MD.A1 Convert among different-sized standard measurement units within a given measurement system and use these conversions in solving multi-step, real world problems.  
6.SP.B.4 Summarize numerical data sets in relation to their context.  
MP.2 Reason abstractly and quantitatively. |
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| Unit 4, Lesson 4.3 | Math    | 6.SPB.4 Summarize numerical data sets in relation to their context.                                                                        |
| Unit 5, Lesson 5.1 | Math    | 5.MD.A1 Convert among different-sized standard measurement units within a given measurement system and use these conversions in solving multi-step, real world problems.  
6.SPB.4 Summarize numerical data sets in relation to their context.  
MP.2 Reason abstractly and quantitatively. |
| Unit 6            | ELA     | RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.  
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