## Scientific Explanations

<table>
<thead>
<tr>
<th>Duration</th>
<th>Big Ideas</th>
<th>Possible Learning Checkpoints</th>
</tr>
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</table>
| 3 Learning Cycles | - Claim: a statement that answers the question  
- Evidence: data, observations and text evidence that support your claim. 2-3 pieces of evidence make a stronger written response.  
- Reasoning: explanation of how your evidence proves your claim is correct. Responses should include science concepts and may include vocabulary. | - LC2 – create an explanation using the CER format  
- LC3 – create an explanation using the CER format |
| 3-4 Days | 90 minutes |
### Speaking and Listening Tasks

Include but are not limited to: oral presentations of the Culminating Event (where appropriate), Literature Circle discussions, and/or Collaborative Conversations. Students should have multiple opportunities for practice and feedback before scores are entered for a grade.

- **Periodic Assessment (Grade 3, Unit 1, Part I):** The Periodic Assessment for this unit can be completed anytime within the testing window. The window will be open for approximately 3 weeks. Please refer to the ELA Unit Pacing Guide for the testing windows.
- **Science end of unit assessment in Performance Matters**

### Driving Forces

<table>
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<tr>
<th>Duration</th>
<th>Assessed Standards</th>
<th>Essential Question</th>
<th>Big Ideas</th>
<th>Possible Learning Checkpoints</th>
<th>Major Assessments</th>
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</table>
| 10 Learning Cycles | 3-PS2-1 3-PS2-2 3-PS2-3 3-PS2-4 | How can we use forces and interactions to affect the movement of different objects? | - Effects of balanced and unbalanced forces on the motion of an object.  
- Cause and effect relationships of magnetic interactions between two objects not in contact with each other.  
- Patterns in motion can be used to predict future motion.  
- Design problems can be solved by applying scientific ideas about magnets. | - LC2 – Describe balanced forces  
- LC3 – Describe unbalanced forces  
- LC4 – Predict future motion of a coin in a wishing well  
- LC5 – Analysis based on crash test  
- LC6 – Make a suggestion on how to use magnets to solve a problem  
- LC7 – Describe materials that are attracted to magnets  
- LC8 – Describe magnetic force | - Mid- and Post-Assessments:  
  - Mid-point Assessment as part of LC 5  
  - End-of-Unit Assessment as part of LC 10  
- **Performance Assessment:**  
  - LC 5: Students independently complete analysis of the vehicle their group designed, built, and tested that travels the farthest distance.  
  - LC 10: Students independently complete analysis of the vehicle their
### Extreme Weather (Integrated ELA/Science Unit)

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<th>End of Unit Assessment</th>
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</thead>
<tbody>
<tr>
<td>Taught during ELA</td>
<td>3-ESS2-1</td>
<td>How do people adapt to weather and climate?</td>
<td>• Cause and effect relationships are routinely identified, tested and used to explain change.</td>
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<td>3-ESS2-2</td>
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<td>• There are multiple ways to solve a problem.</td>
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<td>• Teams of students will create a presentation to advise the governor and community members about the best building design for withstanding a tornado.</td>
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<td>3-ESS3-1</td>
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<td>• Scientists engage in research to learn more about a problem and develop ways to solve it.</td>
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<td>15 Learning Cycles</td>
<td></td>
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<td>• Nature has observable patterns, these patterns can be used to make predictions</td>
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<td>19-20 days</td>
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<td>• Engineers improve existing technologies or develop new ones to increase their benefits (e.g., better artificial limbs), decrease known risks (e.g., seatbelts in cars), and meet societal demands (e.g., cell phones).</td>
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<td>1,800 minutes</td>
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<td>• Interim assessment opportunities are found at the end of each learning cycle for ELA and Science.</td>
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In your presentation:
- Describe the problems that result from tornados.
- Describe the design process you went through from your first build to your last.
- Make a claim stating which design is most effective in addressing the problems caused by a tornado.
- Use evidence from the tornado event that your design is the most effective.
- Your presentation should be no more than five minutes long. It must be organized and easy for your audience to follow. Speakers must speak clearly, and at an appropriate pace and volume.
- Periodic Assessment (Grade 3, Unit 3, Part I): The Periodic Assessment for this unit can be completed anytime within the testing period.
Science Year at a Glance 2022 – 2023
Grade 3

- Science end of unit assessment in Performance Matters

**Survival of the Fittest (Formerly Let Us Grow)**

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| 7 Learning Cycles | 3-LS1-1 3-LS3-1 3-LS3-2 3-LS4-2 3-5-ETS1-2 | What traits best allow an organism to survive? | • Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.  
• Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.  
• Use evidence to support the explanation that traits can be influenced by the environment.  
• Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. | • LC2 – Describe animal life cycles  
• LC4 – Identify and describe patterns of similarities and variations in traits in organisms  
• LC5 – Support an explanation about environmental influences on inherited traits in organisms  
• LC6 – Describe that certain characteristics make it easier for some organisms to survive, find mates, and reproduce over other organisms of the same species that don’t have those traits | **Mid- and Post-Assessments:**  
• Mid-point Assessment as part of LC 3  
• End-of-Unit Assessment as part of LC 7  
**Performance Assessment:**  
• Students select an organism, research it, and then write a letter to next year’s 5th grade students telling them what they learned and whether their organism is one the 5th graders should consider for their schoolyard habitat restoration project. |