**Focus on Patterns; Structure and Function**

By the end of Kindergarten, students learn to use their senses to help them make observations and predictions about the world around them. In this grade level, students will investigate how the senses detect light and sound, observe weather patterns and their influences on plants and animals, and differentiate between systems and structures of living and non-living things. Student investigations focus on collecting and making sense of observational data and simple measurements using the science and engineering practices: ask questions and define problems, develop and use models, plan and carry out investigations, analyze and interpret data, use mathematics and computational thinking, construct explanations and design solutions, use evidence, and obtain, evaluate, and communicate information. While individual lessons may include connections to any of the crosscutting concepts, the standards in Kindergarten focus on helping students understand phenomena through the crosscutting concepts of patterns and structure and function.

**Science and Engineering Practices:**
- ask questions and define problems
- develop and use models
- plan and carry out investigations
- analyze and interpret data
- use mathematics and computational thinking
- construct explanations and design solutions
- engage in argument for evidence
- obtain, evaluate, and communicate information

**Core Ideas for using Science:**

**U1:** Scientists explain phenomena using evidence obtained from observations and/or scientific investigations. Evidence may lead to developing models and/or theories to make sense of phenomena. As new evidence is discovered, models and theories can be revised.

**U2:** The knowledge produced by science is used in engineering and technologies to solve problems and/or create products.

**U3:** Applications of science often have both positive and negative ethical, social, economic, and/or political implications.

**Crosscutting Concepts:**
- **Patterns**
- **Cause and Effect**
- **Scale, Proportion, and Quantity**
- **Systems and System Models**
- **Energy and Matter**
- **Structure and Function**
- **Stability and Change**

Bold concepts are a focus for this grade level. Click on links for detailed information about crosscutting concepts. [http://bit.ly/CrossCutk8](http://bit.ly/CrossCutk8)

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**Year-Long Standards Overview**

<table>
<thead>
<tr>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Our Senses</strong></td>
<td><strong>Weather</strong></td>
<td><strong>Living Things</strong></td>
<td><strong>Sun, Moon, &amp; Stars</strong></td>
</tr>
<tr>
<td>K.P2U1.1</td>
<td>K.E1U1.3</td>
<td>K.L1U1.6</td>
<td>K.E2.U1.5</td>
</tr>
<tr>
<td>K.P2U2.2</td>
<td>K.E1U1.4</td>
<td>K.L1U1.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>K.L2U1.8</td>
<td></td>
</tr>
<tr>
<td>Unit Title</td>
<td>Standard</td>
<td></td>
<td>GESD Context Application of Standards</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
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<td><strong>Quarter 1</strong></td>
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<tr>
<td>Physical</td>
<td>K.P2U1.1 Investigate how senses can detect light, sound, and vibrations even when they come from far away; use the collected evidence to develop and support an explanation.</td>
<td>I can tell you my 5 senses. I can tell you what my 5 senses are for. I can tell and show you how the things around me affect my senses. I can make a tool that makes mine and other people’s senses better.</td>
<td>senses, eyes, ears, touch, light, reflect, sound, vibrate, sketches, drawings, physical models, compare, test, discuss, strengths, weaknesses, patterns, structure, function</td>
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<tr>
<td>Science:</td>
<td>K.P2U2.2 Design and evaluate a tool that helps people extend their senses</td>
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<td>Our Senses</td>
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<tr>
<td><strong>Quarter 2</strong></td>
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<tr>
<td>Earth and</td>
<td>K.E1U1.3 Observe, record, and ask questions about temperature, precipitation, and other weather data to identify patterns or changes in local weather.</td>
<td>I can tell and show you what the weather cycle is. I can tell you what temperature is. I can track and record data of temperature and weather. I can tell you how the weather and temperature affects people, animals, and plants.</td>
<td>weather, temperature, pressure, direction, speed, water vapor, predict, patterns</td>
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<td>Space Science:</td>
<td>K.E1U1.4 Observe, describe, ask questions, and predict seasonal weather patterns; and how those patterns impact plants and animals (including humans).</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit Title</td>
<td>Standard</td>
<td>GESD Context Application of Standards</td>
<td>Key Vocabulary</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>Quarter 3</strong></td>
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<td></td>
</tr>
</tbody>
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| Life Science: Living Things| K.L1U1.6 Obtain, evaluate, and communicate information about how organisms use different body parts for survival.  
                             K.L1U1.7 Observe, ask questions, and explain how specialized structures found on a variety of plants and animals (including humans) help them sense and respond to their environment  
                             K.L2U1.8 Observe, ask questions, and explain the differences between the characteristics of living and non-living things. | • I can tell you and show you the different parts of plants and animals.  
• I can tell you what the functions are for different parts of animals and plants and how those functions are beneficial for survival.  
• I can tell and show you how people, plants, and animals use their senses to survive in their environment.  
• I can tell you the characteristics of living and nonliving things.  
• I can tell you the difference between living and nonliving things. | organisms  
food  
water  
air  
plants  
roots  
stems  
leaves  
flowers  
fruits  
body parts  
growth  
survival  
eyes  
ears  
skin  
respond  
inputs  
predator  
patterns  
structure  
function  
cause  
effect  
living  
non-living  
animals  
moves  
reproduce  
stimuli |                                      |                                                                 |
| **Quarter 4**              |                                                                          |                                      |                |                                               |
| Earth and Space Science: Sun, Moon, & Stars | K.E2U1.5 Observe and ask questions about patterns of the motion of the sun, moon, and stars in the sky. | • I can tell you about outer space.  
• I can tell and show you the patterns of the Earth, sun, moon and stars. | sun  
moon  
stars  
telescopes  
planets  
structure  
functions | ReadyGEN Connection |
## Lesson suggestions:

<table>
<thead>
<tr>
<th>Physical Science:</th>
<th>Earth and Space Science:</th>
<th>Life Science:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connects with Civics in Social Studies</td>
<td>Make weather calendars</td>
<td>Insect life cycle:</td>
</tr>
</tbody>
</table>