Standard 1: Life Science

As a basis for understanding Life Science, Grade 1 students will develop the following knowledge, skills and understandings:

1.1 Plants and animals meet their needs in different ways.
   1.1.1 Know the world has many different kinds of environments that support particular kinds of plants and animals.
   1.1.2 Compare the basic needs of common plants and animals - both need air and water, animals need food, plants need light.
   1.1.3 Identify external features that help plants and animals grow, survive and reproduce in different kinds of environments.
   1.1.4 Describe how plants and animals within a habitat depend on each other to satisfy their needs for food and shelter - animals eat plants or other animals for food; animals may also use plants, or even other animals, for shelter and nesting.
   1.1.5 Understand the function of basic plant structure - roots are associated with intake of water and soil nutrients, and green leaves are associated with making food from sunlight.
   1.1.6 Observe and describe how different plants grow and develop.
   1.1.7 Compare structure and function of different animals’ teeth and use this to infer diet - e.g., sharp teeth: eats meat; flat teeth: eats plants.
   1.1.8 Match plants and animals to their environment based on their structure and behavior.
   1.1.9 Use vocabulary associated with the structures, needs, and habitats of plants and animals - e.g., canine, carnivore, bulb, habitat...

Standard 2: Physical Science

As a basis for understanding Physical Science, Grade 1 students will develop the following knowledge, skills and understandings:

2.1 The motion of objects can be observed and measured.
   2.1.1 Describe the position of an object in relation to another object or to a background.
   2.1.2 Describe the motion of an object by tracing the change in its position over time.
   2.1.3 Understand that the way to change the motion of an object is by giving it a push or a pull and that the size of the change is related to the strength, or the amount of force, of the push or pull.
## Science Curriculum: GRADE 1

<table>
<thead>
<tr>
<th>Standard 2: Mechanical Science</th>
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<tbody>
<tr>
<td>2.1.4 Provide examples of how tools and machines can be used to apply pushes and pulls (forces) to make things move.</td>
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<td>2.1.5 Describe different ways to produce rotational motion (spinning) using forces (pushes and pulls) and some of the variables that influence this.</td>
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<td>2.1.6 Make predictions of motion events based on patterns.</td>
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<td>2.1.7 Know objects fall to the ground due to the force of gravity unless something holds them up.</td>
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<td>2.1.8 Know magnets can be used to make some objects move without being touched.</td>
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<td>2.1.9 Know sound is made by vibrating objects and can be described by its pitch and volume.</td>
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<td>2.1.10 Observe and describe systems that are unstable and modify them by changing the position of counterweights to achieve equilibrium.</td>
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<td>2.1.11 Use observations to compare rolling systems with different-sized wheels and rolling spheres.</td>
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<td>2.1.12 Use vocabulary associated with balance and motion – e.g., position, balance, counterweight, stability....</td>
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### Standard 3: Earth and Space Science

**As a basis for understanding Earth and Space Science, Grade 1 students will develop the following knowledge, skills and understandings:**

#### 3.1 Weather can be observed, measured, and described.

- **3.1.1** Know the weather changes from day to day but that trends in temperature or of rain (or snow) tend to be predictable during a season.
- **3.1.2** Know the sun warms the land, air, and water.
- **3.1.3** Describe the weather.
- **3.1.4** Use simple tools such as a thermometer and wind vane to measure weather conditions and record changes from day to day.
- **3.1.5** Understand that air is a gas that takes up space and can be compressed into a smaller space.
- **3.1.6** Observe the force of air pressure pushing on objects and materials.
- **3.1.7** Observe and compare how moving air interacts with objects.
- **3.1.8** Use vocabulary associated with air and weather – e.g., temperature, thermometer, measure.....
Standard 4: Nature of Science

As a basis for understanding the nature of science as it relates to scientific knowledge, scientific inquiry, and scientific enterprise and to address content in the other standards, Grade 1 students will develop the following skills, knowledge and understandings:

4.1 Scientific progress is made by asking meaningful questions and using scientific thinking to conduct careful investigations and build explanations.

   4.1.1 Ask and answer questions.
   4.1.2 Make predictions based on patterns of events, not random guesses.
   4.1.3 Measure length, weight, temperature, and liquid volume with appropriate tools and express those measurements in standard metric system units.
   4.1.4 Record observations, sequence of events, and data with pictures, numbers, bar graph or written statements.
   4.1.5 Include some specific features of the thing being described when drawing pictures.
   4.1.6 Begin to use data to construct reasonable explanations.
   4.1.7 Describe the relative position of objects by using two references - e.g., above and next to, below and left of...
   4.1.8 Make new observations when two descriptions of the same object or phenomenon differ.
   4.1.9 Ask further questions and begin to develop their own investigations to inquire into them.
   4.1.10 Understand the importance of following directions and using materials and tools safely

4.2 Students understand the connections between science, global issues and sustainable solutions.

   4.2.1 Describe ways that humans can change the environment in which they live.
   4.2.2 Recognize when this results in good or bad change.
   4.2.3 Think of personal ways to minimize and/or avoid bad effects.