



# Bedford Public Schools

## Grade 1 – Science

In first grade, students learn the various stages of matter through experimentation and observation. They classify and describe matter and understand that different properties are suited for different purposes. They learn the cyclical nature of life. Through hands-on activities, first grade students learn the life cycle of plants. Students also observe patterns in the natural world.

### **The Elementary Science Standards – Core Ideas and the Scientific Process**

Students in kindergarten through grade five begin to develop an understanding of the four disciplinary core ideas of physical sciences, life sciences, earth and space sciences, and the engineering design process, including its application to real life. Students are guided and taught to think like scientists using inquiry based thinking and questioning, formulating hypotheses, recording observations, making claims using evidence, and forming conclusions. Students are encouraged to communicate their discoveries with peers and learn to represent their thinking in charts, tables, diagrams, graphic organizers, and lists, as is appropriate for their grade level.



### **Learning Expectations**

[Physical Science](#)

[Life Science](#)

**Physical Science: Solids and Liquids**

<b>Enduring Understandings</b> In order to meet the standards, the students will need to understand that . . .	<b>Essential Questions</b> In order to understand, students will need to consider questions such as . . .	<b>Knowledge and Skills</b> Learning this material will require students to . . .
<ul style="list-style-type: none"> <li>• Every living and non living thing in our universe is made up of matter.</li> <li>• Matter occurs in three states: solid, liquid, and gas.</li> <li>• Matter can be altered or changed to another state.</li> </ul>	<ul style="list-style-type: none"> <li>• How do scientists learn new things?</li> <li>• What patterns can we observe in nature that help us to predict how things will react in the future?</li> <li>• How can we influence the way things behave in the natural world?</li> <li>• How do scientists use tools to help them understand our world?</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the properties of solids and liquids.</li> <li>• Understand that engineering design requires creative thinking and consideration of a variety of ideas to solve practical problems by planning and building a tower, bridge, or tunnel using a set of solids.</li> <li>• Communicate ideas, observations and experiences through writing, drawing and/or discussion.</li> </ul>

**Life Science: From Molecules to Organisms - Structures and Processes**

<b>Enduring Understandings</b> In order to meet the standards, the students will need to understand that . . .	<b>Essential Questions</b> In order to understand, students will need to consider questions such as . . .	<b>Knowledge and Skills</b> Learning this material will require students to . . .
<ul style="list-style-type: none"> <li>• Plants are living things that have basic needs which must be provided for by their environment.</li> <li>• Many human needs are met by plants.</li> <li>• Plants can be classified by their properties.</li> <li>• All organisms have life cycles.</li> </ul>	<ul style="list-style-type: none"> <li>• How do scientists learn new things?</li> <li>• What patterns can we observe in nature that help us to predict how things will react in the future?</li> <li>• How can we influence the way things behave in the natural world?</li> <li>• How do scientists use tools to help them understand our world?</li> <li>• How are life cycles represented in nature?</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the parts of a plant: roots, stem, leaves, flower, and how they are used to take in nutrients, produce food (sugar) and make new plants.</li> <li>• Examine the basic needs of plants.</li> <li>• Represent the stages of a plant's life cycle.</li> <li>• Use information from observations to identify similarities and differences among individual plants of the same species.</li> <li>• Explore different plants and conclude whether they produce flowers or fruit (which contains the seed).</li> </ul>