

# Verona Public School District Curriculum Overview

## 1st Grade Science



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**Curriculum Developed:**  
Summer/Fall 2012  
Summer 2017

**Board Approval Date:**  
February 14, 2012  
New: August 29, 2017

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### **Verona Public Schools Mission Statement:**

The mission of the Verona Public Schools, the center of an engaged and supportive community, is to empower students to achieve their potential as active learners and productive citizens through rigorous curricula and meaningful, enriching experiences.

### **Course Description:**

Students use their senses and the tools of meteorologists to explore temperature, precipitation, wind, and cloud cover. Observations develop a weather vocabulary and lead to new questions: how water changes between its forms and how weather affects humans and other animals. Students choose clothing and design roofs and hats to protect against weather. They conclude by discussing seasonal changes and the importance of weather forecasting.

The investigations in Solids and Liquids introduce students to two key concepts of physical science—that solids and liquids are two states of matter and that each state of matter has its own identifiable properties. Students begin by investigating a set of solids, focusing on properties such as shape, color, texture, and hardness. They conduct experiments to determine whether the solids will float or sink, roll or stack, or attract a magnet.

Using the natural curiosity that young children have about plants and animals, Organisms asks students to develop observational skills by caring for and looking at organisms. Students create and maintain an aquarium and a terrarium; making first-hand observations of plants and animals allows students to develop an understanding of living things.

### **Prerequisite(s):**

None



**Standard 8: Technology Standards**

<b>8.1: Educational Technology:</b> <i>All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</i>	<b>8.2: Technology Education, Engineering, Design, and Computational Thinking - Programming:</b> <i>All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</i>
<ul style="list-style-type: none"> <li>A. Technology Operations and Concepts</li> <li>B. Creativity and Innovation</li> <li><b>X</b> C. Communication and Collaboration</li> <li>D. Digital Citizenship</li> <li>E. Research and Information Fluency</li> <li><b>X</b> F. Critical thinking, problem solving, and decision making</li> </ul>	<ul style="list-style-type: none"> <li>A. The Nature of Technology: Creativity and Innovation</li> <li>B. Technology and Society</li> <li><b>X</b> C. Design</li> <li>D. Abilities for a Technological World</li> <li>E. Computational Thinking: Programming</li> </ul>

**SEL Competencies and Career Ready Practices**

<b>Social and Emotional Learning Core Competencies:</b> <i>These competencies are identified as five interrelated sets of cognitive, affective, and behavioral capabilities</i>	<b>Career Ready Practices:</b> <i>These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness.</i>
<b>Self-awareness:</b> The ability to accurately recognize one's emotions and thoughts and their influence on behavior. This includes accurately assessing one's strengths and limitations and possessing a well-grounded sense of confidence and optimism.	<b>X</b> CRP2. Apply appropriate academic and technical skills. CRP9. Model integrity, ethical leadership, and effective management. CRP10. Plan education and career paths aligned to personal goals.
<b>Self-management:</b> The ability to regulate one's emotions, thoughts, and behaviors effectively in different situations. This includes managing stress, controlling impulses, motivating oneself, and setting and working toward achieving personal and academic goals.	CRP3. Attend to personal health and financial well-being. CRP6. Demonstrate creativity and innovation. <b>X</b> CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity.
<b>Social awareness:</b> The ability to take the perspective of and empathize with others from diverse backgrounds and cultures, to understand social and ethical norms for behavior, and to recognize family, school, and community resources and supports.	<b>X</b> CRP1. Act as a responsible and contributing citizen and employee. CRP9. Model integrity, ethical leadership, and effective management.
<b>Relationship skills:</b> The ability to establish and maintain healthy and rewarding relationships with diverse individuals and groups. This includes communicating clearly, listening actively, cooperating, resisting inappropriate social pressure, negotiating conflict constructively, and seeking and offering help when needed.	<b>X</b> CRP4. Communicate clearly and effectively and with reason. CRP9. Model integrity, ethical leadership, and effective management. CRP12. Work productively in teams while using cultural global competence.
<b>Responsible decision making:</b> The ability to make constructive and respectful choices about personal behavior and social interactions based on consideration of ethical standards, safety concerns, social norms, the realistic evaluation of consequences of various actions, and the well-being of self and others.	CRP5. Consider the environmental, social, and economic impact of decisions. CRP7. Employ valid and reliable research strategies. <b>X</b> CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP9. Model integrity, ethical leadership, and effective management.

**Standard 9: 21<sup>st</sup> Century Life and Careers**

<b>9.1: Personal Financial Literacy:</b> <i>This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.</i>	<b>9.2: Career Awareness, Exploration &amp; Preparation:</b> <i>This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.</i>	<b>9.3: Career and Technical Education:</b> <i>This standard outlines what students should know and be able to do upon completion of a CTE Program of Study.</i>
<b>X</b> A. Income and Careers B. Money Management C. Credit and Debt Management D. Planning, Saving, and Investing E. Becoming a Critical Consumer F. Civic Financial Responsibility G. Insuring and Protecting	<b>X</b> A. Career Awareness (K-4) B. Career Exploration (5-8) C. Career Preparation (9-12)	A. Agriculture, Food & Natural Res. B. Architecture & Construction C. Arts, A/V Technology & Comm. D. Business Management & Admin. E. Education & Training F. Finance G. Government & Public Admin. H. Health Science I. Hospital & Tourism J. Human Services K. Information Technology L. Law, Public, Safety, Corrections & Security M. Manufacturing N. Marketing <b>X</b> O. Science, Technology, Engineering & Math P. Transportation, Distribution & Log.

**Course Materials**

<b>Core Instructional Materials:</b> <i>These are the board adopted and approved materials to support the curriculum, instruction, and assessment of this course.</i>	<b>Differentiated Resources:</b> <i>These are teacher and department found materials, and also approved support materials that facilitate differentiation of curriculum, instruction, and assessment of this course.</i>
<ul style="list-style-type: none"> <li>● STC Kits:             <ul style="list-style-type: none"> <li>○ Exploring My Weather</li> <li>○ Solids and Liquids</li> <li>○ Organisms</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Various trade books</li> </ul>



<b>Unit Title / Topic: Exploring My Weather</b>	<b>Unit Duration: 60 days</b>
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**Stage 1: Desired Results**

**Established Goals:**

- K-PS3-1. Make observations to determine the effect of sunlight on Earth’s surface.** [Clarification Statement: Examples of Earth’s surface could include sand, soil, rocks, and water] [Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.]
- K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.\*** [Clarification Statement: Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun.]
- K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.** [Clarification Statement: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months.] [Assessment Boundary: Assessment of quantitative observations limited to whole numbers and relative measures such as warmer/cooler.]

<p style="text-align: center;"><b>Science and Engineering Practices</b></p> <p><b>Planning and Carrying Out Investigations</b></p> <ul style="list-style-type: none"> <li>● Make observations (firsthand or from media) to collect data that can be used to make comparisons. (K-PS3-1)</li> </ul> <p><b>Constructing Explanations and Designing Solutions</b></p> <ul style="list-style-type: none"> <li>● Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem. (K-PS3-2)</li> </ul> <p><b>Analyzing and Interpreting Data</b></p> <ul style="list-style-type: none"> <li>● Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-ESS2-1)</li> </ul> <p><b>Connections to Nature of Science</b></p> <p><b>Scientific Investigations Use a Variety of Methods</b></p> <ul style="list-style-type: none"> <li>● Scientists use different ways to study the world. (K-PS3-1)</li> </ul> <p><b>Science Knowledge is Based on Empirical Evidence</b></p> <ul style="list-style-type: none"> <li>● Scientists look for patterns and order when making observations about the world. (K-ESS2-1)</li> </ul>	<p style="text-align: center;"><b>Disciplinary Core Ideas</b></p> <p><b>PS3.B: Conservation of Energy and Energy Transfer</b></p> <ul style="list-style-type: none"> <li>● Sunlight warms Earth’s surface. (K-PS3-1),(K-PS3-2)</li> </ul> <p><b>ESS2.D: Weather and Climate</b></p> <ul style="list-style-type: none"> <li>● Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. (K-ESS2-1)</li> </ul>	<p style="text-align: center;"><b>Crosscutting Concepts</b></p> <p><b>Cause and Effect</b></p> <ul style="list-style-type: none"> <li>● Events have causes that generate observable patterns. (K-PS3-1),(K-PS3-2)</li> </ul> <p><b>Patterns</b></p> <ul style="list-style-type: none"> <li>● Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (K-ESS2-1)</li> </ul>
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**Common Core State Standards Connections:**

**ELA/Literacy –**

**RI.K.1** With prompting and support, ask and answer questions about key details in a text. (K-ESS2-2)

**W.K.1** Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book. (K-ESS2-2)

**W.K.2** Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. (K-ESS2-2)

**W.K.7** Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-PS3-1), (K-PS3-2), (K-ESS2-1)

**Mathematics –**

**MP.2** Reason abstractly and quantitatively. (K-ESS2-1)

**MP.4** Model with mathematics. (K-ESS2-1)

**K.CC.A** Know number names and the count sequence. (K-ESS2-1)

**K.MD.A.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (K-ESS2-1)

**K.MD.A.2** Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. (K-PS3-1),(K-PS3-2)

**K.MD.B.3** Classify objects into given categories; count the number of objects in each category and sort the categories by count. (K-ESS2-1)

**Transfer Goal:**

Students will be able to independently use their learning to identify the characteristics of weather, describe the patterns of local weather, and explain the importance of weather prediction and how it affects their lives.

**Students will understand that:**

- Weather changes day to day and week to week
- Weather features include temperature, precipitation, wind, and cloud cover
- Weather features can be measured qualitatively by using the senses and qualitatively by using instruments such as thermometers and rain and wind gauges
- Because water changes form depending on temperature, precipitation has different forms
- Weather affects the clothing humans wear and the type of shelter we need
- Animals skin, fur, feathers, and behaviors can change, so that animals may protect themselves from the weather
- Weather patterns are related to the seasons and can be observed in both the short term and long term.
- Meteorologists are scientists, who study, observe, and record information about the weather and who use this information to forecast the weather
- Predictions about the weather conditions allow us to make plans to cope with severe weather events

**Essential Questions:**

- What do weather/ temperature terms mean (hot, warm, cold, rainy, snowy, foggy, sunny, partly cloudy, and windy) and how can we use symbols as a “weather shorthand” for maps or forecasts?
- Why is it important to know the temperature?
- What is precipitation and why are there different types?
- What is wind and how can it be measured?
- What are clouds and what are the characteristics of different clouds?
- How do meteorologists make weather predictions by looking at the clouds?
- Why can water change forms and what is each form called?
- How does weather affect humans and other animals?
- How can looking at the forecast help me plan?

**Students will know:**

- Weather and temperature are two different things that can be observed
- Weather symbols help you read a forecast on the news and on a map
- Precipitation can be measured
- Precipitation comes in different forms that are affected by the temperature
- Wind can be measured using a wind gauge
- Weather can be predicted by looking at the clouds
- Water can change state depending on the temperature
- We can dress and plan for the weather by looking at a forecast

**Students will be able to:**

- Observe and record weather data by using their senses and science tools
- Observe weather clues and make predictions about weather conditions
- Recognize different types of precipitation
- Measure the height of a column of water in a simple rain gauge to measure precipitation
- Observe, measure, and record cloud changes and cloud cover
- Recognize that water changes from one form to another depending on the temperature
- Test different materials to design a roof to protect a dog from the weather or keep a home cool
- Record daily weather and identify patterns in that data
- Understand the importance of weather forecasting in daily life and planning to cope with severe weather events

**Stage 2: Acceptable Evidence**

**Transfer Task -**

- Assessment 1- Investigating Weather  
Student share and substantiate their thoughts about the weather (teacher will provide weather and cloud pictures not used during the unit)
- Assessment 2- Sharing with a Visitor  
Student is given the opportunity to talk with a principal, parent, or a visiting teacher about what they have learned about weather
- Assessment 3- Reviewing Students Individual Work and Conducting a Meeting  
Teacher uses student’s science journal and one on one conversation with the student to assess



<b>Unit Title / Topic: Solids and Liquids</b>	<b>Unit Duration: 60 days</b>
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**Stage 1: Desired Results**

**Established Goals:**

- 2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.** [Clarification Statement: Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.]
- 2-PS1-2. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.\*** [Clarification Statement: Examples of properties could include, strength, flexibility, hardness, texture, and absorbency.] [Assessment Boundary: Assessment of quantitative measurements is limited to length.]
- 2-PS1-3. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.** [Clarification Statement: Examples of pieces could include blocks, building bricks, or other assorted small objects.]

<p style="text-align: center;"><b>Science and Engineering Practices</b></p> <p><b>Planning and Carrying Out Investigations</b></p> <ul style="list-style-type: none"> <li>● Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-PS1-1)</li> </ul> <p><b>Analyzing and Interpreting Data</b></p> <ul style="list-style-type: none"> <li>● Analyze data from tests of an object or tool to determine if it works as intended. (2-PS1-2)</li> </ul> <p><b>Constructing Explanations and Designing Solutions</b></p> <ul style="list-style-type: none"> <li>● Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (2-PS1-3)</li> </ul>	<p style="text-align: center;"><b>Disciplinary Core Ideas</b></p> <p><b>PS1.A: Structure and Properties of Matter</b></p> <ul style="list-style-type: none"> <li>● Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. (2-PS1-1)</li> <li>● Different properties are suited to different purposes. (2-PS1-2),(2-PS1-3)</li> <li>● A great variety of objects can be built up from a small set of pieces. (2-PS1-3)</li> </ul>	<p style="text-align: center;"><b>Crosscutting Concepts</b></p> <p><b>Patterns</b></p> <ul style="list-style-type: none"> <li>● Patterns in the natural and human designed world can be observed. (2-PS1-1)</li> </ul> <p><b>Cause and Effect</b></p> <ul style="list-style-type: none"> <li>● Simple tests can be designed to gather evidence to support or refute student ideas about causes. (2-PS1-2)</li> </ul> <p><b>Energy and Matter</b></p> <ul style="list-style-type: none"> <li>● Objects may break into smaller pieces and be put together into larger pieces, or change shapes. (2-PS1-3)</li> </ul> <p style="text-align: center;">-----</p> <p><b>Connections to Engineering, Technology, and Applications of Science Influence of Engineering, Technology, and Science on Society and the Natural World</b></p> <ul style="list-style-type: none"> <li>● Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world. (2-PS1-2)</li> </ul>
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**Common Core State Standards Connections:**

- ELA/Literacy –**
- RI.2.8** Describe how reasons support specific points the author makes in a text. (2-PS1-2)
  - W.2.7** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2-PS1-1),(2-PS1-2),(2-PS1-3)
  - W.2.8** Recall information from experiences or gather information from provided sources to answer a question. (2-PS1-1),(2-PS1-2),(2-PS1-3)
- Mathematics –**
- MP.2** Reason abstractly and quantitatively. (2-PS1-2)
  - MP.4** Model with mathematics. (2-PS1-1),(2-PS1-2)
  - MP.5** Use appropriate tools strategically. (2-PS1-2)
  - 2.MD.D.10** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (2-PS1-1),(2-PS1-2)

**Transfer Goal:**

Students will be able to independently use their learning to develop a Venn diagram that compares and contrasts solids and liquids.

**Students will understand that:**

- Solids and liquids can be described by their properties
- Some properties of solids are color, shape, ability to roll, hardness, magnetic attraction, and whether they sink or float
- Some properties of liquids are color, tendency to flow, degree of viscosity or fluidity, whether they are miscible with water, and whether they float or sink in water
- Tests can be performed to investigate properties of solids and liquids that cannot otherwise be observed

**Essential Questions:**

- How can you describe and compare solids?
- How can you describe and compare liquids?
- How can you describe and compare liquids and solids to each other?

**Students will know:**

- Everything in our world is made of matter
- Matter exists in three states: solid, liquid, and gas
- Solids have a definite shape, are more or less hard to the touch, and takes up space (volume)
- Solids can be sorted by their properties many different ways
- Liquids takes up space but it changes shape depending what it is contained in
- Liquids flow
- Liquids flow at different rates depending on how thick or thin they are
- Some liquids are more sticky (viscous) than others and this affects the flow
- You can mix liquids together (some mix well together/homogeneous mixtures and some don't mix well together/heterogeneous mixtures)

**Students will be able to:**

- Observe and describe the properties of solids and liquids
- Conduct tests to investigate the properties of solids and liquids
- Sort solids into groups on the basis of their properties
- Compare similarities and differences among solids
- Compare similarities and differences among liquids
- Apply tests to investigate new solids and liquids
- Compare the properties of solids with the properties of liquids
- Communicate ideas, observations, and experiences through writing, drawing, and discussion

**Stage 2: Acceptable Evidence**

**Transfer Task -**

- Assessment 1- Investigating Cornstarch Mixed with Water  
Student share and substantiate their reasons for believing that this unknown mixture is a solid or a liquid
- Assessment 2- Sharing with a Visitor  
Student is given the opportunity to talk with a principal, parent, or a visiting teacher about what they have learned about liquids and solids
- Assessment 3- Reviewing Students Individual Work and Conducting a Meeting  
Teacher uses student's science journal and one on one conversation with the student to assess



<b>Unit Title / Topic: Organisms</b>	<b>Unit Duration: 60 days</b>
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**Stage 1: Desired Results**

**Established Goals:**

- 1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.\*** [Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.]
- 1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.** [Clarification Statement: Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).]
- 1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.** [Clarification Statement: Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.] [Assessment Boundary: Assessment does not include inheritance or animals that undergo metamorphosis or hybrids.]

<p style="text-align: center;"><b>Science and Engineering Practices</b></p> <p><b>Constructing Explanations and Designing Solutions</b></p> <ul style="list-style-type: none"> <li>● Use materials to design a device that solves a specific problem or a solution to a specific problem. (1-LS1-1)</li> <li>● Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (1-LS3-1)</li> </ul> <p><b>Obtaining, Evaluating, and Communicating Information</b></p> <ul style="list-style-type: none"> <li>● Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)</li> </ul> <p>-----</p> <p><b>Connections to Nature of Science</b></p> <p><b>Scientific Knowledge is Based on Empirical Evidence</b></p> <ul style="list-style-type: none"> <li>● Scientists look for patterns and order when making observations about the world. (1-LS1-2)</li> </ul>	<p style="text-align: center;"><b>Disciplinary Core Ideas</b></p> <p><b>LS1.A: Structure and Function</b></p> <ul style="list-style-type: none"> <li>● All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1)</li> </ul> <p><b>LS1.B: Growth and Development of Organisms</b></p> <ul style="list-style-type: none"> <li>● Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)</li> </ul> <p><b>LS1.D: Information Processing</b></p> <ul style="list-style-type: none"> <li>● Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (1-LS1-1)</li> </ul> <p><b>LS3.A: Inheritance of Traits</b></p> <ul style="list-style-type: none"> <li>● Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1)</li> </ul> <p><b>LS3.B: Variation of Traits</b></p> <ul style="list-style-type: none"> <li>● Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1)</li> </ul>	<p style="text-align: center;"><b>Crosscutting Concepts</b></p> <p><b>Patterns</b></p> <ul style="list-style-type: none"> <li>● Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2), (1-LS3-1)</li> </ul> <p><b>Structure and Function</b></p> <ul style="list-style-type: none"> <li>● The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1)</li> </ul> <p>-----</p> <p><b>Connections to Engineering, Technology, and Applications of Science</b></p> <p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b></p> <ul style="list-style-type: none"> <li>● Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world. (1-LS1-1)</li> </ul>
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**Common Core State Standards Connections:**

- ELA/Literacy –**
- RI.1.1 Ask and answer questions about key details in a text. (1-LS1-2), (1-LS3-1)
  - RI.1.2 Identify the main topic and retell key details of a text. (1-LS1-2)
  - RI.1.10 With prompting and support, read informational texts appropriately complex for grade. (1-LS1-2)
  - W.1.7 Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-LS1-1), (1-LS3-1)
  - W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-LS3-1)
- Mathematics –**
- MP.2 Reason abstractly and quantitatively. (1-LS3-1)
  - MP.5 Use appropriate tools strategically. (1-LS3-1)
  - 1.NBT.B.3 Compare two two-digit numbers based on the meanings of the tens and ones digits, recording the results of comparisons with the symbols  $>$ ,  $=$ , and  $<$ . (1-LS1-2)
  - 1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. (1-LS1-2)
  - 1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. (1-LS1-2)
  - 1.NBT.C.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. (1-LS1-2)
  - 1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object. (1-LS3-1)

**Transfer Goal:**

Students will be able to independently use their learning to create a model of how plants and animals are alike and different.

**Students will understand that:**

- An ecosystem integrates the needs of organisms with their environment.
- Organisms have basic needs that are met by their environments.
- Observing plants and animals in natural and model settings helps us understand the interdependence between organisms and their environment.

**Essential Questions:**

- What do living things need to stay alive?
- How are plants and animals the same? How are they different?

**Students will know:**

- Plants and animals are two kinds of organisms.
- Organisms are similar in some ways and different in others.
- The new starting point in the life cycle of a plant is a seed.
- Terraria and aquaria may be used as models to examine the interactions between plants and animals in their natural environments.
- Humans, like other organisms, depend on, and have an impact on, their environment.
- Animals and plants in nature have evolved to form closely knit, interdependent systems.

**Students will be able to:**

- Conduct an investigation into the structure of seeds.
- Conduct an investigation into the growth of seeds.
- Use diagrams and writings to communicate their observations of plant growth.
- Record information about woodland plants.
- Record information about aquarium plants
- Conduct an investigation into the interactions of plants and animals.
- Conduct an investigation into the similarities and differences of arthropods.
- Record information about ongoing change in aquaria and terraria.
- Conduct an investigation of the needs and characteristics of different plants.
- Conduct an investigation of the needs and characteristics of different animals.

**Stage 2: Acceptable Evidence**

**Transfer Task -**

- Assessment 1- Investigating Plants and Animals  
Student share and substantiate their thoughts about the needs and characteristics of the plants and animals (teacher will provide a plant and an animal not used during the unit)
- Assessment 2- Sharing with a Visitor  
Student is given the opportunity to talk with a principal, parent, or a visiting teacher about what they have learned about plants and animals
- Assessment 3- Reviewing Students Individual Work and Conducting a Meeting  
Teacher uses student’s science journal and one one one conversation with the student to assess