

# Verona Public School District

## Curriculum Overview

### Kindergarten Science



Curriculum Committee Members:

**Supervisor:**  
Glen Stevenson

**Curriculum Developed:**  
2011-2012

**Board Approval Date:**

Verona Public Schools  
121 Fairview Ave., Verona, NJ 07044  
[www.veronaschools.org](http://www.veronaschools.org)

#### **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:**

Kindergarten Science acts as an introduction to Physical Science and to Earth and Space Science. Students will spend time asking questions and investigating forces, matter, weather, and the sun, earth, and moon.

#### **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>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. <b>X</b> 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.	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>
<ul style="list-style-type: none"> <li>A. Income and Careers</li> <li>B. Money Management</li> <li>C. Credit and Debt Management</li> <li>D. Planning, Saving, and Investing</li> <li>E. Becoming a Critical Consumer</li> <li>F. Civic Financial Responsibility</li> <li>G. Insuring and Protecting</li> </ul>	<b>X</b> A. Career Awareness (K-4) B. Career Exploration (5-8) C. Career Preparation (9-12)	<ul style="list-style-type: none"> <li>A. Agriculture, Food &amp; Natural Res.</li> <li>B. Architecture &amp; Construction</li> <li>C. Arts, A/V Technology &amp; Comm.</li> <li>D. Business Management &amp; Admin.</li> <li>E. Education &amp; Training</li> <li>F. Finance</li> <li>G. Government &amp; Public Admin.</li> <li>H. Health Science</li> <li>I. Hospital &amp; Tourism</li> <li>J. Human Services</li> <li>K. Information Technology</li> <li>L. Law, Public, Safety, Corrections &amp; Security</li> <li>M. Manufacturing</li> <li>N. Marketing</li> <li><b>X</b> O. Science, Technology, Engineering &amp; Math</li> <li>P. Transportation, Distribution &amp; Log.</li> </ul>

## 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>
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## Curriculum Scope & Sequence

**Subject/Grade Level: SCIENCE/KINDERGARTEN**

Unit	Duration	NJCCCS / Unit Goals	Transfer Goal(s)	Enduring Understandings	Essential Questions
<b>Matter and Energy Unit A (Matter)</b>	12 Days	<p><b>Unit Goals:</b></p> <ul style="list-style-type: none"> <li>• Sort, classify, and identify types of matter.</li> <li>• Describe the changes of matter.</li> </ul> <p><b>Standards:</b></p> <p>5.1.4.A.1 5.1.4.A.2 5.1.4.A.3 5.1.4.B.1 5.1.4.B.2 5.1.4.B.3 5.1.4.B.4 5.1.4.D.1 5.1.4.D.2 5.1.4.D.3 5.2.4.A.1 5.2.4.A.2 5.2.4.A.3 5.2.4.B.1 5.2.4.C.1 5.2.2.A.1 5.2.2.A.2 5.2.2.B.1 5.2.2.C.3 5.3.4.A.3 5.3.4.B.1</p>	Students will be able to independently use their learning to sort and classify objects based on their attributes.	<ul style="list-style-type: none"> <li>• Matter exists in different states.</li> <li>• Matter can change from one state to another.</li> <li>• Objects have many observable forms, textures, and positions.</li> <li>• Materials can be changed by cutting, folding, bending, and mixing.</li> </ul>	<ul style="list-style-type: none"> <li>• What is matter?</li> <li>• How can matter be sorted?</li> <li>• How can matter be described?</li> <li>• How can matter be changed?</li> </ul>

Unit	Duration	NJCCCS / Unit Goals	Transfer Goal(s)	Enduring Understandings	Essential Questions
<b>Matter and Energy Unit A (Energy)</b>	12 Days	<p><b>Unit Goals:</b></p> <ul style="list-style-type: none"> <li>• Recognize, observe, and describe the Sun’s energy.</li> <li>• Recognize food as a source of energy.</li> </ul> <p><b>Standards:</b></p> <p>5.1.4.A.1 5.1.4.A.2 5.1.4.A.3 5.1.4.B.1 5.1.4.B.2 5.1.4.B.3 5.1.4.B.4 5.1.4.D.1 5.1.4.D.2 5.1.4.D.3 5.2.4.A.1 5.2.4.A.2 5.2.4.A.3 5.2.4.B.1 5.2.4.C.1 5.2.2.A.1 5.2.2.A.2 5.2.2.B.1 5.2.2.C.3 5.3.4.A.3 5.3.4.B.1</p>	<p>Students will be able to independently use their learning to make healthful food choices in order to provide their bodies the energy needed to survive.</p>	<ul style="list-style-type: none"> <li>• The sun can change things with its heat and light.</li> <li>• Objects make shadows when they block light.</li> <li>• People get energy from food.</li> </ul>	<ul style="list-style-type: none"> <li>• How does the sun change things?</li> <li>• What does a healthful meal look like?</li> </ul>
<b>Forces and Motion Unit B</b>	16 Days	<p><b>Unit Goals:</b></p> <ul style="list-style-type: none"> <li>• Recognize, observe, and predict the movement of objects.</li> <li>• Investigate the effects of magnets as a force.</li> <li>• Explore vibrations and sounds.</li> </ul> <p><b>Standards:</b></p>	<p>Students will be able to independently use their learning of forces and motions to determine what they can and cannot move and explain why.</p>	<ul style="list-style-type: none"> <li>• Objects move in many ways.</li> <li>• Objects can be moved by push or pull.</li> <li>• Sound can move through vibrations.</li> </ul>	<ul style="list-style-type: none"> <li>• How do things move?</li> <li>• How can we change motion?</li> <li>• What does a vibration feel like?</li> </ul>

Unit	Duration	NJCCCS / Unit Goals	Transfer Goal(s)	Enduring Understandings	Essential Questions
		5.1.4.A.1 5.1.4.A.2 5.1.4.A.3 5.1.4.B.1 5.1.4.B.2 5.1.4.B.3 5.1.4.B.4 5.1.4.D.1 5.1.4.D.2 5.1.4.D.3 5.2.4.E.1 5.2.4.E.2 5.2.4.E.3 5.2.2.E.1 5.2.2.E.2 5.2.2.E.3			
<b>Earth and It's Weather Unit C</b>	16 Days	<p><b>Unit Goals:</b></p> <ul style="list-style-type: none"> <li>• Recognize that water, land, and living things are found on Earth and that air surrounds the Earth.</li> <li>• Identify and describe parts of Earth's surface (soil, rocks, and water).</li> <li>• Explore the use, reuse, and misuse of resources.</li> <li>• Investigate the effects of weather on Earth and its inhabitants.</li> </ul> <p><b>Standards:</b></p> 5.1.4.A.1 5.1.4.A.2 5.1.4.A.3 5.1.4.B.1 5.1.4.B.2 5.1.4.B.3 5.1.4.B.4	Students will be able to independently use their learning to observe the weather of the day and dress appropriately.	<ul style="list-style-type: none"> <li>• Weather effects their environment and their daily lives.</li> <li>• There is a cycle to the seasons.</li> <li>• Weather can be observed and measured with different instruments.</li> </ul>	<ul style="list-style-type: none"> <li>• What is weather?</li> <li>• How can we measure things?</li> <li>• What are some good tools to use to measure?</li> <li>• How does weather change with the seasons?</li> </ul>

Unit	Duration	NJCCCS / Unit Goals	Transfer Goal(s)	Enduring Understandings	Essential Questions
		5.1.4.D.1 5.1.4.D.2 5.1.4.D.3 5.4.2.C.1 5.4.4.E.1 5.4.4.F.1 5.4.2.F.1			
<b>Earth and Space Unit D</b>	16 Days	<b>Unit Goals:</b> <ul style="list-style-type: none"> <li>• Explore the day and night sky.</li> </ul> <b>Standards:</b> 5.1.4.A.1 5.1.4.A.2 5.1.4.A.3 5.1.4.B.1 5.1.4.B.2 5.1.4.B.3 5.1.4.B.4 5.1.4.D.1 5.1.4.D.2 5.1.4.D.3 5.4.4.A.1 5.4.4.A.2 5.4.2.A.1	Students will be able to independently use their learning to effectively communicate how the sun, moon, and other celestial bodies interact to form the solar system.	<ul style="list-style-type: none"> <li>• There are differences in the day and night sky.</li> <li>• The sun’s position in the sky appears to change in a repeating pattern.</li> <li>• The moon appears to change shape.</li> </ul>	<ul style="list-style-type: none"> <li>• What can we see in the day sky?</li> <li>• How does the sun seem to move each day?</li> <li>• What can we see in the night sky?</li> <li>• How are moon shapes different?</li> </ul>