

## Curriculum Scope and Sequence

<b>Content Area</b>	Exploration - Language Arts/ Science	<b>Course Title/Grade Level:</b>	GATE 1 Curriculum
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<b>Topic/Unit Name</b>	<b>Suggested Pacing (Days/Weeks)</b>
<u><a href="#">Topic/Unit #1</a></u> Exploring Self- A Unit on Self- Awareness	September/ October
<u><a href="#">Topic/Unit #2</a></u> Exploring People , Places and the World Around Me. Cinderella Stories from Around the World	November/ December
<u><a href="#">Topic/Unit #3</a></u> Exploring the Inventive Spirit- Simple Machines	January / February
<u><a href="#">Topic/Unit #4</a></u> Exploring Chemical Engineering : Chemical Engineering and Improving a Play Dough Process	March/ April
<u><a href="#">Topic/Unit #5</a></u> Exploring the Natural World Catching the Wind- Mechanical Engineering and Designing Windmills	May/ June

Unit 1 Title	Self- Awareness	Approximate Pacing	September October
<b>STANDARDS</b>			
<b>NJSLS (Content)</b>			
<p><b>NAGC Standards :</b></p> <p><b>Gifted Education Programing Standards:</b></p> <p><b>Standard 1: Learning and Development</b></p> <p><b>1.1 <u>Self Understanding</u>- Students with Gifts and Talents demonstrate self- knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and intellectual, academic, creative leadership, and artistic domains.</b></p> <p><b>1.2 <u>Self - Understanding</u>- Students with gifts and talents possess a developmentally appropriate understanding of how they learn and grow;they recognize the influences of their beliefs, traditions, and values on their learning and behavior.</b></p> <p><b>1.3. <u>Self-Understanding</u>. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population.</b></p> <p><b>1.4. <u>Awareness of Needs</u>. Students with gifts and talents access resources from the community to support cognitive and affective needs, including social interactions with others having similar interests and abilities or experiences, including same-age peers and mentors or experts.</b></p> <p><b>1.5. Awareness of Needs. Students families and communities understand similarities and differences with respect to the development and characteristics of advanced and typical learners and support students with gifts and talents' needs.</b></p> <p><b>1.6. Cognitive and Affective Growth. Students with gifts and talents benefit from meaningful and challenging learning activities addressing their unique characteristics and needs.</b></p> <p><b>1.7. Cognitive and Affective Growth. Students with gifts and talents recognize their preferred approaches to learning and expand their repertoire.</b></p> <p><b>1.8. Cognitive and Affective Growth. Students with gifts and talents identify future career goals that match their talents and abilities and resources needed to meet those goals (e.g., higher education opportunities, mentors, financial support)</b></p> <p><b>Career Readiness, Life Literacies, and Key Skills</b></p> <p><b>9.4 Life Literacies</b></p> <p><b>Creativity and Innovation: 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives 9.4.2.CI.2: Demonstrate originality and inventiveness in work . 9.4.2.CT.3 Uses a variety of types of thinking to solve problems ( e.g.,inductive, deductive)</b></p>			

<p><b>NAGC Standards- 1.1 .1 , 1.1.2 , 1.2.1 Self- Understanding – Students will identify their strengths, interests and gifts.</b></p> <p><b>1.6 Cognitive and Affective Growth- Stimulate thinking with a creative thinking activity.</b></p>	
<p><b>Interdisciplinary Connections:</b></p>	<p><b>Career Readiness, Life Literacies, and Key Skills</b></p>
<p><b>Self-Awareness Activities</b>  <b>Mindfulness Curriculum</b>  <b>Ready Set Respect Curriculum</b>  <b>Character Education Curriculum</b>  <b>Social and Emotional Awareness</b></p>	<p><b>Creativity and Innovation</b>  <b>9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).</b> •  <b>9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A)</b></p> <p><b>Critical Thinking and Problem Solving</b></p> <p><b>9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).</b> • <b>9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).</b> • <b>9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive reasoning)</b></p>
<p><b>Computer Science and Design and Thinking</b></p>	<p><b>Career Ready Practices:</b></p>
<p><b>Engineering and Design</b></p> <p><b>Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions.</b> •  <b>8.2.2.ED.1: Communicate the function of a product or device.</b> •  <b>8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.</b> •  <b>8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process. Limitations</b></p>	<p><b>CRP1. Act as a responsible and contributing citizen and employee.</b>  <b>CRP2. Apply appropriate academic and technical skills.</b>  <b>CRP4. Communicate clearly and effectively and with reason.</b>  <b>CRP5. Consider the environmental, social and economic impacts of decisions.</b>  <b>CRP6. Demonstrate creativity and innovation.</b>  <b>CRP7. Employ valid and reliable research strategies.</b></p>

<p>(constraints) must be considered when engineering designs.  <b>8.2.2.ED.4: Identify constraints and their role in the engineering design process.</b></p> <p><b>Interaction of Technology and Humans</b></p> <ul style="list-style-type: none"> <li>• <b>8.2.2.WITH.1: Identify products that are designed to meet human wants or needs.</b></li> <li>• <b>8.2.2.ITH.2: Explain the purpose of a product and its value.</b></li> </ul>	<p><b>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</b></p> <p><b>CRP11. Use technology to enhance productivity.</b></p> <p><b>CRP12. Work productively in teams while using cultural global competence.</b></p>
<b>UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS</b>	
<p>What does it mean to be smart?</p> <p>What characteristics do you have that make you smart?</p> <p>What kinds of things do you think about?</p> <p>What kinds of things make you a unique person?</p> <p>What kind of smart are you? ( Multiple Intelligences)</p> <p>What makes you unique?</p> <p>How are you creative?</p> <p>What makes you a good thinker?</p> <p>What qualities do you have that make you have task commitment?</p> <p>What do you dream about?</p>	
<b>STUDENT LEARNING OBJECTIVES</b>	
	<b>Process/Skills/Procedures/Application of Key Knowledge</b>

<p><b>Self-Awareness Activities</b>  <b>Mindfulness Curriculum</b>  <b>Ready Set Respect Curriculum</b>  <b>Character Education</b>  <b>Responsive Classroom</b></p>	<p><i>Students will be able to complete a series of self-awareness activities that will help them acknowledge their personal self, likes and dislikes, and be more aware of who they are as a person.</i></p> <p><i>Students will:</i></p> <p><i>Complete a class scavenger hunt</i></p> <p><i>Read The DOT by Peter Reynolds</i></p> <p><i>Create a DOT that shows “ How I Will Make A Mark On The World “</i></p> <p><i>Think about themselves and things that they like</i></p> <p><i>Think about what it is like to be smart.</i></p> <p><i>List qualities of being smart.</i></p> <p><i>Review the Multiple Intelligence Chart</i></p> <p><i>Make an “All about Me “ Packet</i></p> <p><i>Create an “I AM” statement poem portfolio with tiered pages</i></p> <p><i>Create an “If I Can “ declaration page</i></p> <p><i>Brainstorm and illustrate things that give meaning to your life or that give you joy.</i></p> <p><i>Think of things that give you power and illustrate them.</i></p> <p><i>Complete a Thinking Cloud exercise</i></p> <p><i>Complete the Unique Me page and tell all about yourself</i></p> <p><i>Complete creative thinking exercises</i></p> <p><i>Complete visual thinking exercises</i></p>
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**ASSESSMENT OF LEARNING**

<p><b>Summative Assessment</b>  (Assessment at the end of the learning period)</p>	<p><b>Portfolio</b>  <b>Rubrics</b>  <b>Notes</b></p>
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<p><b>Formative Assessments</b> (Ongoing assessments during the learning period to inform instruction)</p>	<p><b>Anecdotal Records</b> <b>Teacher Observation</b></p>
<p><b>Alternative Assessments</b> (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)</p>	<p><b>Assessment of Self- Awareness Booklet- I AM</b></p>
<p><b>Benchmark Assessments</b> (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)</p>	
<p><b>RESOURCES</b></p>	
<p><b>Core instructional materials:</b> <b>Primary Thinking Skills</b> <b>Primary Creativity</b></p>	
<p><b>Supplemental materials:</b> <b>Primary Education Thinking Skills - 1</b></p>	
<p><b>Modifications for Learners</b></p>	
<p><b>Gifted Modifications :</b> <b>Choice Board</b> <b>Tiered Leveled activities</b> <b>Accountable Talk</b></p>	

**Meaningful content**

**Digging Deeper into a topic to expand student interest**

**Effective project design**

**Personal responsibility**

**Higher level assignments and activities which keep students thinking and engaged.**

**Provide visual puzzles**

**Creative Thinking Puzzles**

**Bloom's Taxonomy of Thinking**

**Opportunity to use a variety of creative thinking and self-expression**

Topic/Unit 2 Title	Cinderella Stories from Around the World	Approximate Pacing	November December
<b>STANDARDS</b>			
<b>NJSLS (Content)</b>			
<p><b>NAGC Standards :</b></p> <p><b>Gifted Education Programing Standards:</b></p> <p><b>Standard 1: Learning and Development</b></p> <p><b>1.1 <u>Self Understanding</u>- Students with Gifts and Talents demonstrate self- knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and intellectual, academic, creative leadership, and artistic domains.</b></p> <p><b>1.2 <u>Self - Understanding</u>- Students with gifts and talents possess a developmentally appropriate understanding of how they learn and grow;they recognize the influences of their beliefs, traditions, and values on their learning and behavior.</b></p> <p><b>1.3. <u>Self-Understanding</u>. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population.</b></p> <p><b>1.4. <u>Awareness of Needs</u>. Students with gifts and talents access resources from the community to support cognitive and affective needs, including social interactions with others having similar interests and abilities or experiences, including same-age peers and mentors or experts.</b></p> <p><b>1.5. Awareness of Needs. Students’ families and communities understand similarities and differences with respect to the development and characteristics of advanced and typical learners and support students with gifted and talented needs</b></p> <p><b>1.7. Cognitive and Affective Growth. Students with gifts and talents recognize their preferred approaches to learning and expand their repertoire.</b></p> <p><b>1.8. Cognitive and Affective Growth. Students with gifts and talents identify future career goals that match their talents and abilities and resources needed to meet those goals (e.g., higher education opportunities, mentors, financial .</b></p> <p><b>Career Readiness, Life Literacies, and Key Skills</b></p> <p><b>9.4 Life Literacies and Key Skills :</b></p> <p><b>Creativity and Innovation: 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives</b>  <b>9.4.2.CI.2: Demonstrate originality and inventiveness in work .</b></p> <p><b>Global and Cultural Awareness</b></p>			



**9.4.2.GCA:1: Articulate the role of culture in everyday life by describing one’s own culture and comparing it to the cultures of other individuals (e.g., 1.5.2.C2a, 7.1.NL.IPERS.5, 7.1.NL.IPERS.6).**

Reading Standards for Literature:

**RL.2.1** — Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in the text.

**RL.2.2** — Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson or moral.

**RL.2.3** — Describe how characters in a story respond to major events and challenges.

**RL.2.5** — Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.

**RL.2.7** — Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.

**RL.2.9** — Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.

Interdisciplinary Connections:	Career Readiness, Life Literacies, and Key Skills
<p>Grimm Fairy Tales            Fables and Myths            Geography ( Places around the world where Cinderella Stories developed            Cultural similarities and differences</p>	<p><b>Creativity and Innovation</b>            • 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). • 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).. •</p> <p><b>Critical Thinking and Problem Solving</b>            • 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2). • 9.4.2.CT.2: Identify</p>

	possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). • 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
<b>Computer Science and Design and Thinking</b>	<b>Career Ready Practices:</b>
<p><b>Engineering and Design</b></p> <p>Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions. •</p> <p>8.2.2.ED.1: Communicate the function of a product or device. •</p> <p>8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. •</p> <p>8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process. Limitations (constraints) must be considered when engineering designs.</p> <p>8.2.2.ED.4: Identify constraints and their role in the engineering design process.</p> <p><b>Interaction of Technology and Humans</b></p> <ul style="list-style-type: none"> <li>• 8.2.2.WITH.1: Identify products that are designed to meet human wants or needs.</li> <li>• 8.2.2.ITH.2: Explain the purpose of a product and its value.</li> </ul>	<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP5. Consider the environmental, social and economic impacts of decisions.</p> <p>CRP6. Demonstrate creativity and innovation.</p> <p>CRP7. Employ valid and reliable research strategies.</p> <p>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>CRP11. Use technology to enhance productivity.</p> <p>CRP12. Work productively in teams while using cultural global competence.</p>
<b>UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS</b>	
<p>How many Fairy Tales can you name?</p> <p>What are the characteristics of a fairy tale?</p> <p>What do fairy tales have in common?</p>	

Why were fairy tales written?

What lessons can we learn from the characters in traditional fairy tales and folktales?

How can these lessons translate to our own lives?

Do other countries have fairy tales?

What similarities and differences do you see in the different Cinderella stories?

How does the setting (time, place, culture) impact the characters and plot of a story? How does the author use character traits to reveal the moral/lesson of the story?

How does the author use character traits to reveal the moral/lesson of the story?

### STUDENT LEARNING OBJECTIVES

#### Key Knowledge

**Students will know:**

*Fairy tales are fictional stories that come from all cultures. Common characteristics of fairy tales include; set in the past, have fantasy, make-believe or magical elements, have clearly defined good and evil characters, most often have a happy ending, and teach a lesson that is important to the culture they come from.*

- *Characters are developed through details that reveal their actions, thoughts, feelings, and relationships with others. These details help a reader understand how characters respond to major events and challenges.*
- *A character is a physical person in a story. Character is also an abstract way of describing how someone acts and their personality. For example a character trait is a word that describes what a person is like most of the time.*

#### Process/Skills/Procedures/Application of Key Knowledge

**Students will be able to:**

- *Brainstorm a list of fairy tales .*
- *Read about different Cinderella stories around the world.*
- *Explore different cultures*
- *Relate new information to prior knowledge and experience .*
- *Understand the way language is used in the fairy tale genre.*
- *Write opinions in response to reading fairy tales.*
- *Make inferences and draw conclusions about a characters' qualities and actions.*
- *Make connections between main characters or simple events in a literary work to the student's own life.*
- *Relate stories to personal experience.*
- *Contribute to the classroom learning community through a shared writing project.*

<ul style="list-style-type: none"> <li>● <i>Setting is where and when a story takes place. The setting influences how characters act and behave. Authors introduce the setting at the beginning of a story to help a reader understand why characters make certain decisions.</i></li> <li>● <i>The central message of a story is the big idea or lesson the story teaches. Knowing which events are most important in a story helps a reader figure out the story's lesson or central message.</i></li> <li>● <i>Recounting stories, or retelling stories in the order they happen, helps a reader better understand a story. When recounting a story, readers think about the key events from the beginning, middle, and end of the story.</i></li> <li>● <i>Illustrations help a reader build a deeper understanding of what is happening in the text. Illustrations often include additional details that contribute to a reader's understanding of what is happening.</i></li> </ul>	<ul style="list-style-type: none"> <li>- <i>Understand the characters, setting and central message and comparing and contrasting those elements across multiple versions of the same story.</i></li> <li>- <i>Identify how the setting influences the way characters respond to major events and challenges.</i></li> <li>- <i>Learn how to recount a story , including its key details that help determine the central message or lesson in the story.</i></li> <li>- <i>Brainstorm new characters, scenarios and messages about a story.</i></li> <li>- <i>Identify magical elements in the story.</i></li> <li>- <i>Create a new and original Cinderella Type of story that includes a creative name and story elements.</i></li> </ul>
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**ASSESSMENT OF LEARNING**

<b>Summative Assessment</b> (Assessment at the end of the learning period)	<b>Portfolio</b> <b>Rubrics</b> <b>Notes</b>
<b>Formative Assessments</b> (Ongoing assessments during the learning period to inform instruction)	<b>Anecdotal records</b> <b>Teacher Observation</b>
<b>Alternative Assessments</b> (Any learning activity or assessment that asks students to <i>perform</i> to	

demonstrate their knowledge, understanding and proficiency)	
<b>Benchmark Assessments</b> (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	
<b>RESOURCES</b>	
<b>Core instructional materials:</b> Cinderella Around the World by : Kathleen M. Hollenbeck	
<b>Supplemental materials:</b> Yeh-Shen: A Cinderella Story from China by Ai-Ling Louie The Rough-Face Girl by Rafe Martin The Golden Sandal: A Middle Eastern Cinderella Story by Rebecca Hickox The Turkey Girl: A Zuni Cinderella Story by Penny Pollock The Persian Cinderella by Shirley Climo An Irish Cinderella Story by Jude Daly Angkat The Cambodian Cinderella by Jewell Reinhart Coburn Estrellita de oro A Caribbean Cinderella by Robert D. San Souci The Korean Cinderella by Shirley Climo Mufaro's Beautiful Daughters by John Steptoe The Egyptian Cinderella by Shirley Climo Dogarella by Marybeth Boelts Dinorella by Pamela Duncan Edwards	
<b>Modifications for Learners</b>	
<b>Gifted Modifications:</b> - Provide a variety of extension activities which can include: <ul style="list-style-type: none"> <li>● Thematic topics for discussion and research ( Fables, Fairy Tales and Myths)</li> <li>● Provide advanced/supplementary reading materials using a variety of Cinderella stories from around the world.</li> <li>● Use authentic resources to promote a deeper understanding of concepts ( What would a modern day Cinderella story be?)</li> <li>● Provide opportunities for open-ended, self-directed activities ( Brainstorm name parodies for a new story )</li> </ul>	

- **Facilitate communication with experts outside the classroom for real world and deeper contextual understanding ( Interview a reading teacher in the building )**
- **Encourage creativity, Provide opportunities to develop depth and breadth of knowledge in the subject area (examples: create drawings/illustrations, use of music, create poems/songs, write opinion letters, create videos/stories/comic strips, etc.)**
- **Conduct research and provide a presentation of related topics**
- **Design surveys to generate and analyze data to be used in discussion ( Ask several people what their favorite Fairy Tale is )**
- **Debate topics of interest/cultural importance ( Cinderella from different cultures )**
- **Provide complex, authentic reading sources that provide data and support for concepts covered in the course**
- **Use higher level questioning techniques**
- **Provide assessments that contain a higher level of thinking**

Topic/Unit 3 Title	Simple Machines	Approximate Pacing	January February
<b>STANDARDS</b>			
<b>NJSLS (Content)</b>			
<p><b><u>2-PS1-1 Matter and Its Interactions</u></b> Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.</p> <p><b><u>2-PS1-2 Matter and Its Interactions</u></b> Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.</p> <p><b>Career Readiness, Life Literacies, and Key Skills</b> Creativity and Innovation: 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives 9.4.2.CI.2: Demonstrate originality and inventiveness in work .</p>			
<b>Interdisciplinary Connections:</b>		<b>Career Readiness, Life Literacies, and Key Skills</b>	
<p>Rube Goldberg Machines Robotics</p>		<p><b>Creativity and Innovation</b> • 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). • 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).. •</p> <p><b>Critical Thinking and Problem Solving</b> • 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2). • 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). • 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).</p>	

Computer Science and Design Thinking	Career Ready Practices:
<p><b>Technology Standards</b></p> <ul style="list-style-type: none"> <li>● 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose.</li> <li>● 8.1.2.C.1 Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media.</li> <li>● 8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.</li> <li>● 8.2.2.A.3 Identify a system and the components that work together to accomplish its purpose.</li> <li>● 8.2.2.A.4 Choose a product to make and plan the tools and materials needed.</li> <li>● 8.2.2.A.5 Collaborate to design a solution to a problem affecting the community.</li> <li>● 8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product.</li> <li>● 8.2.2.E.1 List and demonstrate the steps to an everyday task.</li> </ul> <p><b>Engineering and Design</b></p> <p>Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions. •</p> <p>8.2.2.ED.1: Communicate the function of a product or device. •</p> <p>8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. •</p> <p>8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process. Limitations (constraints) must be considered when engineering designs.</p> <p>8.2.2.ED.4: Identify constraints and their role in the engineering design process.</p>	<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP5. Consider the environmental, social and economic impacts of decisions.</p> <p>CRP6. Demonstrate creativity and innovation.</p> <p>CRP7. Employ valid and reliable research strategies.</p> <p>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>CRP11. Use technology to enhance productivity.</p> <p>CRP12. Work productively in teams while using cultural global competence.</p>



<p><b>Interaction of Technology and Humans</b></p> <ul style="list-style-type: none"> <li>• 8.2.2.WITH.1: Identify products that are designed to meet human wants or needs.</li> <li>• 8.2.2.ITH.2: Explain the purpose of a product and its value.</li> </ul>	
<b>UNIT/TOPIC ESSENTIAL QUESTIONS AND ENDURING OBJECTIVES/UNDERSTANDINGS</b>	
<p>The purpose of this unit is to help students develop a conceptual understanding of how work is done, both with and without simple machines. Students will engage in a variety of activities exploring different types of simple machines to see how they work and how they make work easier.</p> <p>What are simple machines ?          What are simple machines used for?          Where can you find simple machines?          How do simple machines make work easier?</p>	
<b>STUDENT LEARNING OBJECTIVES</b>	
<b>Key Knowledge</b>	<b>Process/Skills/Procedures/Application of Key Knowledge</b>
<p><b><i>Students will know:</i></b></p> <p>What are simple machines ?          What are simple machines used for?          Where can you find simple machines?          How do simple machines make work easier?</p>	<p><b><i>Students will be able to:</i></b></p> <ul style="list-style-type: none"> <li>- <i>Understand what a simple machine is.</i></li> <li>-<i>Understand and name 6 simple machines.</i></li> <li>-<i>Make a simple machine out of common objects.</i></li> <li>-<i>Understand and explain how simple machines work.</i></li> <li>-<i>Identify the three types of work as push, pull and lift.</i></li> <li>-<i>Identify the six simple machines.</i></li> <li>-<i>Identify the purpose of simple machines - to make work easier.</i></li> <li>-<i>Differentiate between simple machines and motorized machines.</i></li> <li>-<i>Construct at least 2 of the six simple machines.</i></li>   <li>- <i>Identify different examples of simple machines from home and school environments.</i></li> </ul>

- List ways to utilize simple machines to make work easier at home and in school.
  - Identify the purpose of simple machines. (to make work easier)
  - List ways to utilize simple machines to make work easier at home and in school.
  - Show on paper how simple machines make work easier by drawing a machine that incorporates different types of simple machines.
- Draw a Rube Goldberg style machine using simple machines.

**ASSESSMENT OF LEARNING**

<b>Summative Assessment</b> (Assessment at the end of the learning period)	<b>Portfolio</b> <b>Rubric</b> <b>Notes</b>
<b>Formative Assessments</b> (Ongoing assessments during the learning period to inform instruction)	<b>Anecdotal records</b> <b>Teacher Observation</b>
<b>Alternative Assessments</b> (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	
<b>Benchmark Assessments</b> (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	

## RESOURCES

### Core instructional materials:

**The Scientific Pig and Simple Machines**

### Supplemental materials:

**Simple Machines Resources:**

**Edheads.com**

## Modifications for Learners

### Gifted Modifications:

- Provide a variety of extension activities which can include:

- Thematic topics for discussion and research ( research different types of simple machines and compound machines)
- Provide advanced/supplementary reading materials about simple machines.
- Use authentic resources to promote a deeper understanding of concepts
- Provide opportunities for open-ended, self-directed activities ( Create a new invention using simple machines)
- Facilitate communication with experts outside the classroom for real world and deeper contextual understanding ( Interview a mechanical engineer)
- Encourage creativity, Provide opportunities to develop depth and breadth of knowledge in the subject area (examples: create drawings/illustrations, use of music, create poems/songs, write opinion letters, create videos/stories/comic strips, etc.)
- Design surveys to generate and analyze data to be used in discussion ( Ask several people what their favorite invention is )
- Debate topics of interest/cultural importance ( Research when different tools were invented like the wheel and the ramp )
- Use higher level questioning techniques
- Provide assessments that contain a higher level of thinking

<b>Topic/Unit 4 Title</b>	<p align="center"><b>Exploring a Play Dough Process</b></p> <p align="center">Written by: Alice Willard</p>	<b>Approximate Pacing</b>	<b>March April</b>
<b>STANDARDS</b>			
<b>NJSLS (Content)</b>			
<p><b>2-PS1 Matter and Its Interactions</b></p> <p><b>2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.</b></p> <p><b>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.</b></p> <p><b>Career Readiness, Life Literacies, and Key Skills</b></p> <p><b>Creativity and Innovation: 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives 9.4.2.CI.2: Demonstrate originality and inventiveness in work .</b></p> <p><b>Critical Thinking and Problem Solving -</b>  <b>Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.</b></p> <ul style="list-style-type: none"> <li>• <b>9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem</b></li> <li><b>9.4.2.CT.2: Identify possible approaches and resources to execute a plan</b></li> <li>• <b>9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive)</b></li> </ul>			
<b>Interdisciplinary Connections:</b>		<b>Career Readiness, Life Literacies, and Key Skills</b>	
<p><b>Culinary Arts- Following a process when cooking.</b></p> <p><b>Exploring different Polymers.</b></p> <p><b>Exploring different types of matter</b></p> <p><b>Creating new recipes</b></p>		<p><b>Creativity and Innovation</b></p> <ul style="list-style-type: none"> <li>• <b>9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).</b></li> <li>• <b>9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a)..</b></li> </ul>	

<p><b>Creating new and original Play Dough formulas recipes ( Unicorn play dough, sparkle play dough)</b></p>	<p><b>Critical Thinking and Problem Solving</b>  • 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2). • 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3). • 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).</p>		
	<p><b>Career Ready Practices:</b></p>		
	<p>CRP1. Act as a responsible and contributing citizen and employee.  CRP2. Apply appropriate academic and technical skills.  CRP4. Communicate clearly and effectively and with reason.  CRP5. Consider the environmental, social and economic impacts of decisions.  CRP6. Demonstrate creativity and innovation.  CRP7. Employ valid and reliable research strategies.  CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.  CRP11. Use technology to enhance productivity.  CRP12. Work productively in teams while using cultural global competence.</p>		
<p><b>Computer Science and Design Thinking</b></p>			
<p><b>Technology Standards</b>  • 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose.  • 8.1.2.C.1 Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media.</p>			

<ul style="list-style-type: none"> <li>● 8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.</li> <li>● 8.2.2.A.3 Identify a system and the components that work together to accomplish its purpose.</li> <li>● 8.2.2.A.4 Choose a product to make and plan the tools and materials needed.</li> <li>● 8.2.2.A.5 Collaborate to design a solution to a problem affecting the community.</li> <li>● 8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product.</li> <li>● 8.2.2.E.1 List and demonstrate the steps to an everyday task.</li> </ul> <p><b>Engineering and Design</b></p> <p>Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions. •</p> <p>8.2.2.ED.1: Communicate the function of a product or device. •</p> <p>8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. •</p> <p>8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process. Limitations (constraints) must be considered when engineering designs.</p> <p>8.2.2.ED.4: Identify constraints and their role in the engineering design process.</p> <p><b>Interaction of Technology and Humans</b></p> <ul style="list-style-type: none"> <li>• 8.2.2.WITH.1: Identify products that are designed to meet human wants or needs.</li> <li>• 8.2.2.ITH.2: Explain the purpose of a product and its value.</li> </ul>			
<b>Key Knowledge</b>	<b>Process/Skills/Procedures/Application of Key Knowledge</b>		
<p><i>How do things that we use come to be?</i></p> <p><i>What are engineering and technology?</i></p> <p><i>What is material? What are tools?</i></p>	<p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>- <i>Identify a process and explain what a process is in an engineering context .</i></li> </ul>		

***Who creates things that we use?  
What is engineering design?***

***What do engineers do to design or improve a product or system?  
What do creativity and careful thinking have to do with engineering?***

***What are some fields of engineering?***

***How do people and cultures affect what technologies are developed?***

***How can we become better at solving engineering problems?***

***How do the properties of a material affect how it is used?***

***How do we design, improve, or evaluate a product or system?***

***How are science, technology, and engineering related?***

***What do engineers do to design or improve a new product?***

***How do engineers use science and math?***

***How do we design, improve or evaluate a product or system?***

***Why is it important for engineers to work together?***

***What kinds of problems can engineers help us solve?***

- ***explain why the order of the steps in a process is important.***
- ***Identify and explain the steps in the Engineering Design Process***
- ***Identify and explain the role of chemical engineers in designing and improving technologies, especially processes.***
- ***Define product research and explain its purpose and importance.***
- ***Identify and explain the role of chemical engineers in conducting product research.***
- ***analyze product research survey results to draw conclusions about consumer preferences.***
- ***communicate product research results.***
- ***identify properties of high quality and low quality play dough and explain why they are important.***
- ***design tests to establish criteria for measuring the quality of play dough***
- ***use controlled experiments to test, observe, and record the physical reactions between different play dough materials.***
- ***identify and implement the steps in the engineering design process.***
- ***analyze experimental results to draw conclusions about the properties of different play dough materials***
- ***Make improvements in the play dough process***
- ***Imagine different play dough processes***
- ***plan playdough processes by listing them in the right order.***
- ***Create a sample play dough***
- ***Evaluate the sample play dough.***
- ***Think of ways to improve the play dough.***

<b>ASSESSMENT OF LEARNING</b>	
<b>Summative Assessment</b> (Assessment at the end of the learning period)	<ul style="list-style-type: none"> <li>- <b>Observe student contributions to class discussions</b></li> <li>- <b>Examine student work and Play Dough Process Evaluations</b></li> <li>- <b>Use Lesson Rubrics to evaluate lesson performance</b></li> </ul>
<b>Formative Assessments</b> (Ongoing assessments during the learning period to inform instruction)	<p><b>Anecdotal records</b> <b>Teacher Observation</b></p>
<b>Alternative Assessments</b> (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	
<b>Benchmark Assessments</b> (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	
<b>RESOURCES</b>	
<p><b>Core instructional materials:</b>  <b>A Work in Process: Improving a Play Dough Process : Solids and Liquids and Chemical Engineering For Elementary Students .</b></p>	
<p><b>Supplemental materials:</b></p> <p><b>Extension lessons from EIE.org</b></p> <p><b>Foss Science: Solids and Liquids</b>  <b>Gems: Liquid Explorations/ Secret Formulas</b></p>	



**Modifications for Learners**

**Gifted Modifications:**

- Provide a variety of extension activities which can include:

- Thematic topics for discussion and research ( research different types of play dough formulas online)
- Provide opportunities to be creative with the Play Dough formula that the students make. ( make it scented, with sparkles, have a theme, give the play dough a different texture. )
- Use authentic resources to promote a deeper understanding of concepts ( Research different types of play dough formulas online )
- Provide opportunities for open-ended, self-directed activities ( Create a new type of dough)
- Facilitate communication with experts outside the classroom for real world and deeper contextual understanding . ( Interview your mom or dad about cooking )
- Encourage creativity, Provide opportunities to develop depth and breadth of knowledge in the subject area (examples: create drawings/illustrations, use of music, create poems/songs, write opinion letters, create videos/stories/comic strips, etc.)
- Design surveys to generate and analyze data to be used in discussion ( Ask several people what their favorite hands on toy is )
- Use higher level questioning techniques
- Provide assessments that contain a higher level of thinking

<b>Topic/Unit 5 Title</b>	<b>Catching the Wind - Designing Windmills - Air, Weather, and Mechanical Engineering for Elementary Students</b>	<b>Approximate Pacing</b>	<b>May/ June</b>
<b>STANDARDS</b>			
<b>NJSLS (Content)</b>			

**2-PS1 Matter and Its Interactions**

**2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.**

**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.**

**K-2-ETS1 Engineering Design**

**K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.**

**K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.**

**K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**

**Career Readiness, Life Literacies, and Key Skills**

**Creativity and Innovation: 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives**

**9.4.2.CI.2: Demonstrate originality and inventiveness in work .**

**Critical Thinking and Problem Solving -**

**Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.**

**• 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem**

**9.4.2.CT.2: Identify possible approaches and resources to execute a plan**

**• 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive)**

<b>Interdisciplinary Connections:</b>	<b>Career Readiness, Life Literacies, and Key Skills</b>
<b>FOSS: Air and Weather</b> <b>STC: Weather</b> <b>Social Studies Content:</b> <ul style="list-style-type: none"><li>- Denmark</li><li>- Windmill and Sail Energy</li><li>- Sailing competitions like the World Cup</li><li>- Wind Turbines</li><li>- The future of wind power.</li></ul>	<b>Creativity and Innovation</b> <b>. • 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). • 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).. •</b>  <b>Critical Thinking and Problem Solving</b>

	<ul style="list-style-type: none"> <li>• 9.4.2.CT.1: Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).</li> <li>• 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).</li> <li>• 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).</li> </ul>		
	<b>Career Ready Practices:</b>		
	<p>CRP1. Act as a responsible and contributing citizen and employee.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP5. Consider the environmental, social and economic impacts of decisions.</p> <p>CRP6. Demonstrate creativity and innovation.</p> <p>CRP7. Employ valid and reliable research strategies.</p> <p>CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.</p> <p>CRP11. Use technology to enhance productivity.</p> <p>CRP12. Work productively in teams while using cultural global competence.</p>		
<b>Computer Science and Design Thinking</b>			
<b>Technology Standards</b> <ul style="list-style-type: none"> <li>• 8.1.2.A.1 Identify the basic features of a digital device and explain its purpose.</li> </ul>			

<ul style="list-style-type: none"> <li>● 8.1.2.C.1 Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media.</li> <li>● 8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.</li> <li>● 8.2.2.A.3 Identify a system and the components that work together to accomplish its purpose.</li> <li>● 8.2.2.A.4 Choose a product to make and plan the tools and materials needed.</li> <li>● 8.2.2.A.5 Collaborate to design a solution to a problem affecting the community.</li> <li>● 8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product.</li> <li>● 8.2.2.E.1 List and demonstrate the steps to an everyday task.</li> </ul> <p><b>Engineering and Design</b></p> <p>Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions. •</p> <ul style="list-style-type: none"> <li>8.2.2.ED.1: Communicate the function of a product or device. •</li> <li>8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process. •</li> <li>8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process. Limitations (constraints) must be considered when engineering designs.</li> <li>8.2.2.ED.4: Identify constraints and their role in the engineering design process.</li> </ul> <p><b>Interaction of Technology and Humans</b></p> <ul style="list-style-type: none"> <li>• 8.2.2.WITH.1: Identify products that are designed to meet human wants or needs.</li> <li>• 8.2.2.ITH.2: Explain the purpose of a product and its value.</li> </ul>			
<b>Key Knowledge</b>	<b>Process/Skills/Procedures/Application of Key Knowledge</b>		

<p><b><i>What are Engineering and Technology ?</i></b></p> <p><b><i>What are some properties of wind?</i></b></p> <p><b><i>What are some properties of wind energy ?</i></b></p> <p><b><i>What do windmills do ?</i></b></p> <p><b><i>How do engineers use technology to solve problems?</i></b></p> <p><b><i>Who are Mechanical Engineers?</i></b></p> <p><b><i>How do mechanical engineers observe and think about machines?</i></b></p> <p><b><i>What properties of a sail affect how well it catches the wind?</i></b></p> <p><b><i>How can we use the Engineering Design Process to make a windmill blade design to catch the wind?</i></b></p>	<p><b><i>What are Engineering and Technology ?</i></b></p> <p><b><i>Leif Catches the Wind</i></b></p> <p><b><i>Students will be able to:</i></b></p> <ul style="list-style-type: none"> <li><b><i>-Define what an engineer is .</i></b></li> <li><b><i>-Identify objects that catch the wind</i></b></li> <li><b><i>-Define the Engineering Design Process</i></b></li> <li><b><i>-Identify the different uses of windmills and wind turbines</i></b></li> <li><b><i>-Understand that wind energy can be used to do useful work</i></b></li> <li><b><i>-Recognize the role of mechanical engineers</i></b></li> <li><b><i>- Understand that :</i></b></li> </ul> <p><b><i>Wind is moving air and has energy</i></b></p> <p><b><i>Wind pushes on objects and interacts with them .</i></b></p> <p><b><i>Wind interaction can be used to do work</i></b></p> <ul style="list-style-type: none"> <li><b><i>-Examine everyday examples of technology</i></b></li> <li><b><i>- Discuss how these objects were designed to solve problems</i></b></li> <li><b><i>-Discuss the materials that the objects are made from .</i></b></li> <li><b><i>-Understand that almost all the objects we use everyday are examples of technology</i></b></li> <li><b><i>- Technology can be made into different kinds of materials</i></b></li> <li><b><i>-Engineers design technology to solve problems</i></b></li> <li><b><i>-Understand:</i></b></li> <li><b><i>-engineers solve problems by designing solutions</i></b></li> <li><b><i>- how wind has energy</i></b></li> <li><b><i>-how wind can do useful work such as generating electricity or power machines</i></b></li> <li><b><i>- how windmills use the energy of the wind to do useful work</i></b></li> <li><b><i>-how the Engineering Design Process can be used to do useful work .</i></b></li> </ul> <p><b><i>How do mechanical engineers observe and think about machines?</i></b></p>
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**Identify common objects that are machines**

- **observe and analyze the action and reaction required for different kinds of machines to function**
- **think about how each of machine helps them to complete a given task more efficiently**
- **discuss the role of the mechanical engineer**

**Understand that :**

**Mechanical engineers design , improve and study the motions of machines to make them work more effectively and efficiently**

- **machines are instruments that change or use energy to do work.**
- **moving one part of the machine can affect the other parts of a machine.**

**What properties of a sail affect how well it catches the wind?**

- **predict which sail material will be the best to catch the wind when used as a sail.**
- **observe and describe how different materials and shapes catch the wind as sails.**
- **test different sail designs to see if they can move when blown by a fan.**
- **discuss the properties of the materials used to make sails and how those properties affect the sails and catch the wind.**

**How can we use the Engineering Design Process to make a windmill blade design to catch the wind?**

- **Design and construct windmill blades**
- **use wind energy to turn work and turn the blades**
- **test and improve the blade design**
- **Use the engineering design process to improve the design .**

<b>ASSESSMENT OF LEARNING</b>	
<b>Summative Assessment</b> (Assessment at the end of the learning period)	<ul style="list-style-type: none"> <li>- <b>Observe student contributions to class discussions</b></li> <li>- <b>Examine student work</b></li> <li>- <b>Use Lesson Rubrics to evaluate lesson performance</b></li> </ul>
<b>Formative Assessments</b> (Ongoing assessments during the learning period to inform instruction)	<p><b>Anecdotal records</b> <b>Teacher Observation</b></p>
<b>Alternative Assessments</b> (Any learning activity or assessment that asks students to <i>perform</i> to demonstrate their knowledge, understanding and proficiency)	
<b>Benchmark Assessments</b> (used to establish baseline achievement data and measure progress towards grade level standards; given 2-3 X per year)	
<b>RESOURCES</b>	
<p><b>Core instructional materials:</b> <b>Catching the Wind: Mechanical Engineering Designing Windmills</b></p>	
<p><b>Supplemental materials:</b></p> <p>Extension lessons from ( <a href="http://www.eie.org">http://www.eie.org</a> )            American Society of Engineering Education ( <a href="http://www.engineeringk12.org">http://www.engineeringk12.org</a> )            Kidwind( <a href="http://www.kidwind.org">http://www.kidwind.org</a> )</p>	
<b>Modifications for Learners</b>	

**Gifted Modifications:**

## Gifted Modifications:

- Provide a variety of extension activities which can include:

- Thematic topics for discussion and research ( research different types of products that use wind energy)
- Provide opportunities to be creative with wind energy experiments.
- Use authentic resources to promote a deeper understanding of concepts ( Research different wind experiments )
- Provide opportunities for open-ended, self-directed activities ( Create a new game using wind as a component)
- Facilitate communication with experts outside the classroom for real world and deeper content. Observe the weather report for a week and record it.
- Encourage creativity, Provide opportunities to develop depth and breadth of knowledge in the subject area (examples: create drawings/illustrations, use of music, create poems/songs, write opinion letters, create videos/stories/comic strips, etc.)
- Design surveys to generate and analyze data to be used in discussion ( Ask students if they know relatives that live in states that produce a lot of windsor tornados)
- Use higher level questioning techniques
- Provide assessments that contain a higher level of thinking