

3rd Grade

Cooking with Sol

Eco-Energy for Schools



Unit Overview	
Unit Title	Cooking with Sol
Unit Summary	Energy from the sun reaches the Earth as radiant energy. The student will understand that the sunlight is a source of energy and the oven will serve as an insulator, which will trap heat inside.
Subject Area Strands	Science – Technology & Engineering and Energy Math – Numbers and Operations in Base Ten Measurement and Data ELA – Reading Strands for Informational Text: Key Ideas and Details Writing: Production and Distribution of Writing and Research to Build and Present Research Speaking and Listening: Comprehension and Collaboration Social Studies – Map Skills and Global Issues
Grade Level	3 rd Grade
Appropriate Time	5 days

Lesson Foundation

Targeted Content Standards	Common Core Standards	
	Mathematics	<ul style="list-style-type: none"> • 3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. • 3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. • 3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories.
	English / Language Arts	<p><u>Reading Strands for Informational Text</u></p> <ul style="list-style-type: none"> • RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for answers. <p><u>Writing</u></p> <ul style="list-style-type: none"> • W.3.6 With guidance and support from adults, use technology to produce and publish writing (using Keyboarding skills) as well as to interact and collaborate with others. • W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort <p><u>Speaking and Listening</u></p> <ul style="list-style-type: none"> • SL.3.1d Explain their own ideas and understanding in light of the discussion.
	TN Standards	
	Science	<ul style="list-style-type: none"> • SPI 0307.T/E.2 Recognize the connection between a scientific advance and the development of a new tool or technology. • SPI 0307.10.1 Use an illustration to identify various sources of heat energy. • SPI 0307.10.2 Classify materials according to their ability to conduct heat.
	Social Studies	<ul style="list-style-type: none"> • 3.3.spi.7 Determine the climate of a specific region of the world using a map. • 3.6.spi.2 Recognize major global concerns.

**Next
Generation
Science
Standards**

Science and Engineering Practices

• **Asking Questions and Defining Problems**

Asking questions and defining problems in grades 3–5 builds on grades K–2 experiences and progresses to specifying qualitative relationships.

- Ask questions that can be investigated based on patterns such as cause and effect relationships. (3-PS2-3)
- Define a simple problem that can be solved through the development of a new or improved object or tool. (3-PS2-4)

• **Planning and Carrying Out Investigations**

Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.

- Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (3-PS2-1)
- Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. (3-PS2-2)

Connections to Nature of Science

• **Science Knowledge is Based on Empirical Evidence**

- Science findings are based on recognizing patterns. (3-PS2-2)

• **Scientific Investigations Use a Variety of Methods**

- Science investigations use a variety of methods, tools, and techniques. (3-PS2-1)

Crosscutting Concepts

• **Patterns**

- Patterns of change can be used to make predictions. (3-PS2-2)

• **Cause and Effect**

- Cause and effect relationships are routinely identified. (3-PS2-1)
- Cause and effect relationships are routinely identified, tested, and used to explain change. (3-PS2-3)

• **Connections to Engineering, Technology, and Applications of Science**

• **Interdependence of Science, Engineering, and Technology**

- Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process. (3-PS2-4)

Lesson Foundation – Big Ideas & Cross-Curricular Connections

Big Ideas

1. The Sun and the angle of the Sun have an effect on the Earth at different times of the day and year.
2. A solar cooker is a type of solar thermal collector that collects and traps the sun's thermal heat or energy. Understanding that the sunlight is a source of energy and the oven will serve as an insulator, which will trap heat inside.

Cross-Curricular Connections:

All connections will revolve around the students' study of the effects of the sun. Students will learn that sunlight is a source of energy and they will demonstrate the use of insulation in trapping heat as a source of energy for making a solar oven. Students will use their math and language skills to measure, calculate, graph, write and discuss how different angles of the sun at various times of the day have different effects on the use of a solar oven. The students' language skills will be honed as class discussion of their data takes place. Students will study the history of the use of solar ovens for their study in Social Studies.

Lesson Foundation – Essential Questions

1. What is solar power and how can it be used?
2. Why is it important to know the specific color of materials to use in the construction of the solar oven?
3. Why is it important to know the angle of the sun at different times of the day and year?
4. Explain how different continents of the world could benefit from using solar ovens.
5. How can we organize materials and events to help us make sense of what we observe?
6. What is energy, where do we find it, how does it change from one form to another, and how does it affect our everyday lives?
7. What do we need to do to investigate problems like scientists?

Lesson Foundation – Student Objectives

Going Beyond	<ul style="list-style-type: none">• I can use a thermometer to compare the temperatures collected from three different times of the day and from different angles of the sun.• I can graph the temperatures collected from the data using a line plot.• I can hypothesize if different types of containers, such as bowls or cans would make a difference in their findings, and would the color of container make a difference?
Mastery	<ul style="list-style-type: none">• I can compare and contrast how different materials absorb energy.• I can graph various temperature data.• I can determine how the angle of the sun, the time of day, and the seasons play a role in the position of the sun.• I can determine why different colors of materials make a difference in using a solar oven effectively.• I can determine why it is important to change the angle of solar panels according to the time of day and time of year.
Building the Basics	<ul style="list-style-type: none">• I can use a digital thermometer to collect the temperature at different times of the day. (This makes it easier to read the thermometer)• I can measure the temperature at different times during the cooking process.• I can use an IPAD to record my data.

Lesson Foundations – Prerequisite Content & Skills

Content Knowledge	<ul style="list-style-type: none">• Describe the meaning of the word absorb.• Provide examples of energy.• Distinguish between hot, cold, cool, and warm.• Provide adjectives of hot, cold, cool, and warm environments.• Recognize that both natural materials and human-made tools have specific characteristics that determine their uses.
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	<ul style="list-style-type: none"> • Use tools to measure materials and construct simple products. • Investigate the effect of the sun on land, water, and air. • Predict and determine what happens over the course of a school day when containers of sand, soil, and water with thermometers are placed in a sunny window. • Predict and determine what happens over the course of a school day when containers of sand, soil and water with thermometers are placed in a shady location. • Compare the temperature at different places around the school such as black top driveway, lawn, concrete areas, side of the building, under a shade tree, wet area, in the ground.
Skills	<ul style="list-style-type: none"> • Students must have basic knowledge of how to read a thermometer and record data. • Knowing how to use a graph and IPAD for taking pictures to record the information from Educreation is also a necessary skill.
Unit Anchor Text	
Unit Anchor Text	<ul style="list-style-type: none"> • <i>Why We Need The Sun?</i> (Timothy Paulson) • <i>Crow Steals Some Daylight, Life in Polar Lands</i> (Monica Byes) • <i>How Grandmother Spider Stole the Sun, Keepers of the Earth</i> (Michael J. Caduto and Joseph Bruchac) • <i>Morning, Noon and Night</i> (Jean Craighead George) (paintings by Wendell Minor). Harper Collins
Unit Companion Texts	
Informational Text(s)	<ul style="list-style-type: none"> • <i>Harnessing Power From The Sun: Energy Revolution</i> (Niki Walker) • Spetgang, Tilly, <i>The Kids' Solar Energy Book</i> • Benduhn, Tea. <i>Solar Power Energy Revolution</i> • Peterson, Christine, <i>Solar Power</i>
Assessments	
Formative Assessments	<ul style="list-style-type: none"> • Teacher observation during experiment and calculations. • Participation during group work. • Independent work and class interaction during discussion. • Paying attention during the class power point presentations.
Summative Assessments	<ul style="list-style-type: none"> • The students will be graded on their presentations, which should include their hypothesis, findings, and how their results compared with their hypothesis. (See Rubric for scoring) • The students will also take a reading test from the book selections read throughout the week during literacy circles; <ul style="list-style-type: none"> ○ <i>Crow Steals Some Daylight, Life in Polar Lands</i> (Monica Byes)

	<ul style="list-style-type: none"> ○ <i>Morning Noon and Night (1999)</i> by Jean Craighead George, ○ <i>How Grandmother Spider Stole the Sun, Keepers of the Earth</i> (Michael J. Caduto and Joseph Bruchac) ○ <i>Why We Need the Sun</i> by Timothy Paulson, ○ <i>Solar Power</i> by Christine Peterson
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Writing Assessments	<ul style="list-style-type: none"> • The student will write about the data collected comparing the absorption of the sun on the various colors of materials used for the oven. • They will begin with a hypothesis and then defend their research after collecting data. • The student will use Educreation to create a presentation describing three ways to improve the design of the oven and two ways a solar oven could be used in the real world.
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Unit Vocabulary

Term	Definition
Reflect	Light to bounce off of
Absorb	To take in
Solar energy	Energy or heat from the sun
Thermometer	A tool used to measure how hot something is
Insulation	Can hold heat or cold in or out.
Adobe oven	Solar ovens made by the Pueblo Indians

Teaching the Unit

Initial Strategies	<ul style="list-style-type: none"> • Students will be placed in pairs and given the necessary supplies to build a solar oven. • The students will be encouraged to write a hypothesis in their science journal about their predictions of building a successful oven that will cook a S'more. • Next, each student will use a scientific method to investigate his or her hypothesis. • Each student pair will have a record sheet to use for their collection of data. • The students will participate in a group discussion about their hypothesis' following their experiments at the end of the week.
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**Direct
Instruction**

Day	
1	<p><u>Science:</u> Introduce the lesson by using a KWL chart on anchor chart paper to organize the information students know about solar energy. Next, make another chart in order to record the answers to the following questions. Questions:</p> <ol style="list-style-type: none">1. Explain how solar ovens could be useful to all the continents.2. Do you think solar ovens are a new concept?3. Is using a solar oven conserving natural resources?4. Predict if the time of the year will have an effect on cooking with the solar oven?5. Does longitude and latitude have anything to do with using the oven? <p>After the questions have been noted on the chart paper, the students will watch a video on watchknow.org called Solar Energy Concentrator on Solar Energy.</p> <p><u>Writing:</u> The students will write their hypothesis in a science journal about what they expect to find during the experiment of cooking a S'more in the solar oven they are going to build. Include in the hypothesis how hot they predict the oven will get during the experiment.</p> <p><u>Math:</u> Students will be shown the line graph and will review how to chart their data as it is collected during the cooking process.</p> <p><u>Social Studies:</u> The students will begin learning about the history of how solar ovens have been used throughout history. The recorded use of solar ovens goes back as far as the 1200's. History of solar cooking.</p> <p><u>Reading:</u> During literacy groups, read and discuss the book <i>Why We Need the Sun?</i> (Timothy Paulson) Introduce the vocabulary words using a foldable to write the six words.</p> <p>Students then will be divided into pairs and each will be given all the supplies and instructions they will need to instruct the solar oven. The ovens will be used outside in the solar classroom on the next day after the construction is complete.</p> <p><u>Extra Activities:</u> The students can have an opportunity to play the solar energy games included in the lesson plans. These games could be used anytime throughout the week to fill time, for the early finishers</p>
2	<u>Science:</u>

The pair of students will collect their solar ovens and begin their experiment outside in the direct sunlight away from the solar panel on the outdoor classroom. They will record the beginning temperature inside the box and will continue recording the temperature every 2 minutes on a data sheet, until the s'mores begins to melt. They will record the final temperature prior to removing the cooked s'mores from the oven.

Math:

Students will record their results on their record sheet. The students will transfer their findings onto their individual line graphs from the record sheet when the experiment is completed. They will find the difference in the beginning temperature and the final reading to determine how many degrees the temperature rose while cooking. They will determine the angle of the graphing line.

Reading:

During literacy circle the students will compare and contrast using a Venn diagram what the difference is in the solar oven they constructed and the ones used in the 1200's. After completing these, the students will read and discuss the *Crow Steals Some Daylight, Life in Polar Lands* by (Monica Byes)

Social Studies:

The students will begin to associate how solar ovens are used in impoverished countries to cook because they do not have electricity. Students will watch the video [Solar Cooking](#). Students need to realize it is easy to cook with solar and the fuel is free, renewable and non-polluting.

Writing/Language:

Have the students write about their findings in their science journals using adjectives to describe what they observed and how they calculated the temperatures. They will need to include the differences they observed in the temperatures of the oven during their experiment.

Homework:

Students will write their vocabulary definitions in their foldable.

3

Science:

Begin the lesson by reading *The Kids' Solar Energy Book* and have a class discussion. Students will repeat the same experiments outside as the day before except in a new location. The students will conduct the same experiment except under the solar panels of the outdoor classroom. The same data will be collected.

Math:

The beginning temperatures will be recorded and the student will continue checking the temperature readings every 2 minutes until the final reading prior to removing the s'mores. Once again the students will record their results onto their line graphs and determine the angle

of the line. They will also find the difference in the temperatures of their different readings during the experiment. After finding the differences, they will compare the temperatures of the cooking in the direct sunlight and the cooking in the outdoor classroom using the solar panels.

Writing/Language:

Have the students use adjectives as they describe their findings in their science journal. They will be asked to compare the temperatures of the two days' findings and describe if they see a trend in their findings.

Social Studies:

Discuss how other countries use solar cooking on a regular basis. Go to www.sunoven.com, [Who Is Using](#). Students will also learn that the Army used large, suffocated ovens during the Gulf War. They were mounted on trucks and were used to cook meals for hundreds of troops. The different National Guard camps are also using big solar ovens for cooking.

Reading:

During literacy groups read and discuss *How Grandmother Spider Stole the Sun, Keepers of the Earth* by Michael J. Caduto and Joseph Bruchac.

The students will determine the main idea of the story using a tree map. They will be asked to write a story of their own using the same main idea.

Homework:

Use the vocabulary words from their foldable in a sentence.

4

Science:

The students will watch a video about [Solar Technology](#) and discuss the importance of using solar thermal heat as a source of energy.

Reading:

During the literacy circle, the student will read and discuss *Morning, Noon and Night* by Jean Craighead George. They will compare this to a twenty-four hour period and how the sun changes the temperature throughout a twenty-four period.

Math:

Students will work on word problems associated with the data collected from the experiments. They will be asked to work the problems using equations and illustrations.

Social Studies:

Discuss how the Pueblo Indians lived in adobe homes. This was one of the first solar homes in history and they used the adobe ovens, which was heated by the sun. Show pictures that show the life and homes of this tribe of Indians Read a small excerpt from the book

State of the Art of Solar Cooking (an excellent Ancient Documentary) at the solarcookers.org.wiki

Writing/Language:

Students will begin working on their Educreation presentation to be presented to the class on the next day.

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The lesson will cumulate with students presenting their Educreation presentations of their findings. They will state their hypothesis and determine if they were correct or incorrect. The presentations should include the data, the line graph, and the comparisons of the data. The student will need to include three ways they could improve their design and two ways the cooker could be used in the real world. Students will need to be advanced research in order to have the necessary information.

Students will have a test over the books read throughout the week as a cumulative review.

Complete the KWL chart and review the questions that were asked on Day 1. Compare their answers to what they were when asked the first time.

Higher-Level Cognitive Function Strategies

Create - Put It Together

- Combine, Contrast, Develop, Imagine, Design, Change, Improve, Create, Discuss, Invent, Suppose
- They will create a line plot after all the data has been collected.
- The higher-level thinkers will create a scatter plot to provide an additional way of looking at the data. Afterwards, the students will discuss the differences in the graphs and the data collected.

Evaluate - Judge

- Justify, Defend, Decide, Agree, Value, Prove, Check, Criticize, Recommend, Support, Test

Analyze - Take Apart

- Compare, Classify, Examine, List, Distinguish, Simplify, Theme, Conclude, Motive, Discover
- Measurements can also be taken and charted at three different times of the day, early morning, noon, and then later in the afternoon. The student will compare and contrast the differences in the heat and angle of the sun throughout the day. The data will be placed on a scatter plot for enrichment for the higher-level thinkers.

Apply - Use It

- Build, Execute, Develop, Construct, Identify, Plan, Select, Solve, Organize, Apply, Model
- Students will use the data from the experiments collected on the beginning temperature and chart the temperature every 5 minutes to determine how long it takes for the solar oven to cook a S more.

Understand - Explain

- Rephrase, Demonstrate, Summarize, Contrast, Show, Predict, Compare, Clarify, Illustrate, Categorize

Remember - Facts

- Who, What, When, Where, Why, Which, How, Match, Define, List, Choose, Name, Spell, Tell

**Guided
Practice &
Activities**

DAY 1

Science:

The lesson on Solar Energy will be introduced using a KWL chart on anchor chart paper. This will be completed at the end of the week as the lesson is completed. Watch a video on watchknowlearn.org about Solar Energy Conservation.

Language/Writing:

The students will write their hypothesis in a science journal about what they expect to find during the experiment of cooking a S'more in the solar oven they are going to build. In their hypothesis they will include how hot they predict the oven will get during the cooling process. Students will be reminded about proper grammar, writing in complete sentences, and using the correct punctuation.

Reading:

A literacy circle will gather to read and discuss *Why We Need the Sun:* by Timothy Paulson. Students will be introduced to the vocabulary and will create a foldable to have to use as a study guide throughout the week to prepare for the test. They will write their words in the foldable.

Social Studies:

The students will begin learning about the history of how solar ovens have been used thorough out history The recorded use of solar ovens goes back as far as the 1200's. They will study the History of solar cooking using the linked site.

Math:

Students will be shown the line graph that will be used throughout the week for data collection. They will review how to create a line graph for the collection of their data.

DAY 2

Science:

Pairs of students will collect their solar ovens to begin their experiment outside in the direct sunlight away from the solar panels on the outdoor classroom. They will record the beginning temperature inside the box and will continue recording the temperature every 2 minutes on a data sheet, until the s'mores begin to melt. They will record the final temperature prior to removing the cooked s'mores from the oven.

Math:

Students will record their results on the record sheet. The data will then be transferred onto their individual line graphs from the record sheet when the experiment is completed They will find the difference in the beginning temperature and the final reading to determine how many degrees the temperature rose while cooking. They will determine the angle of the graphing line.

Reading:

During literacy circles students will use a Venn diagram to compare and contrast using a Venn diagram what the difference is in the solar oven they constructed and the ones used in the 1200's. After completing these, the students will read and discuss *The Crow Steals Some Daylight, Life in Polar* by Monica Byes. Students will also review their vocabulary

words and for homework they will be asked to write their vocabulary definitions in their foldable.

Social Studies:

Students will begin to associate how solar ovens are used in improvised countries to cook because they do not have electricity. Students will watch the video Solar Cooking. Students need to realize it is easy to cook with solar energy and the fuel is free, renewable and non-polluting.

Writing/Language:

Students will write about their findings in their science journals using adjectives to describe what they observed and how they calculated the temperatures. They will need to include the differences they observed in the temperatures of the oven during their experiment.

DAY 3

Science:

Begin the lesson by reading *The Kids' Solar Energy Book* and have a class discussion. Students will repeat the same experiments outside as the day before except in a new location. The students will conduct the same experiment except under the solar panels of the outdoor classroom. The same data will be collected.

Math:

The students will use the collected data from the record sheets in order to graph their findings. They will also find the differences in all of the colors of paper used to this point of the lesson. They will also compare the temperatures of the two days put together.

Writing/Language:

Students will write their findings in their science journals. They will be asked to compare the temperatures of the two days' findings. They will be asked if they see a trend of any kind. The writing should consist of adjectives to describe their data. Grammar and punctuation will be emphasized.

Social Studies:

The students discuss how other countries use solar cooking on a regular basis. Go to www.sunoven.com, [Who Is Using](#). Students will also learn that the Army used large, elaborate ovens during the Gulf War. They were mounted on trucks and were used to cook meals for hundreds of troops. The different National Guard camps are also using big solar ovens for cooking.

Reading:

During literacy circles read and discuss *How Grandmother Spider Stole the Sun, Keepers of the Earth* by Michael J. Caudto and Joseph Bruchac. The students will determine the main idea of the story and use this main idea to create their own stories. The students will use the vocabulary words in a sentence for their homework assignment.

DAY 4

Science/Reading:

The students will watch a video about [Solar Technology](#) and discuss the importance of using solar thermal heat as a source of energy. Review the different places that solar cooking is used.

	<p><u>Math:</u> Students will work on word problems associated with the data collected from the experiments. They will be asked to work the problems using equations and illustrations.</p> <p><u>Social Studies:</u> Discuss how the Pueblo Indians lived in adobe homes. This was one of the first solar homes in history and they used the adobe ovens, which was heated by the sun. Show pictures that show the life and homes of this tribe of Indians Read a small excerpt from the book State of the Art of Solar Cooking (an excellent Ancient Documentary) at the solarcookers.org/wiki.</p> <p><u>Writing/Language:</u> Students will begin working on their Educreation presentation to be presented to the class on the next day.</p> <p><u>DAY 5</u></p> <p>The lesson will cumulate with students presenting their Educreation presentations of their findings. They will state their hypothesis and determine if they were correct or incorrect. The presentations should include the data, the line graph, and the comparisons of the data. The student will need to include three ways they could improve their design and two ways the cooker could be used in the real world. Students will need to be advanced research in order to have the necessary information. Students will have a test over the books read throughout the week as a cumulative review. Complete the KWL chart and review the questions that were asked on Day 1. Compare their answers to what they were when asked the first time.</p>
STEM Projects	<ul style="list-style-type: none"> • The students will use an IPAD/IPOD in order to take pictures of their experiments to use as part of their Educreation presentations of their experimental findings. • The students will use an Educreation to prepare a presentation using the data from their experiments to present to the class.
STEM Culminating Event	<ul style="list-style-type: none"> • Students will present their Educreation presentation to the class. They will include pictures taken from the IPAD/IPOD. Students are to state their hypothesis and justify their findings. They will state whether their hypothesis was correct or incorrect. • After the presentations, students will analyze all the information to determine if there were any similarities or differences in the various data gathered.
Differentiated Instruction	<ul style="list-style-type: none"> • Writing <ul style="list-style-type: none"> ○ Students with poor motor skills can use an IPAD to type their science journal entries and email them to the teacher. The writing assignments will be altered to accommodate different learners. Students who have difficulty with subtraction will be allowed to use a calculator and a digital thermometer in order to help make the readings easier. • Small groups and student pairs will allow for peer collaboration and tutoring for struggling students.

	<ul style="list-style-type: none"> Students will be provided with leveled books and articles about solar energy.
Re-teaching Strategies	<ul style="list-style-type: none"> Students will work on reading a thermometer in order to collect data accurately or will be given a digital thermometer. Students will have additional instruction on the making of an Educreation presentation and if necessary, student collaboration and peer tutoring will take place.
Enrichment Strategies	<ul style="list-style-type: none"> Students will do the experiments at three different times of the day to collect the data using different times and angles of the sun. This data will be compared to determine the difference in the times. The new data would be recorded on a scatter plot graph.
Independent Practice Activities	<ul style="list-style-type: none"> Students will read books and articles on solar power. Students will write a Problem/Solution paper on what the difference is in the solar oven they constructed and the ones used in the 1200's. Students will make a list of how they can conserve energy in their environment. Students will list items that can be replaced with solar power. Students will practice their math skills. Students will create a Venn diagram showing the similarities and differences in the solar oven they constructed and the ones used in the 1200's. Students will play the solar energy games to determine the different temperatures of solar power.
Materials & Resources	Materials
	<ol style="list-style-type: none"> Pizza Box (1 per student) Thermometers – 1 per student pair Newspapers Scissors Paper for the line graph for each pair of children (for temperature) Tape. Record sheet – 1 per group of pair Crayons/Markers – for the bar graph Black construction paper Clear plastic wrap Aluminum foil Ruler Venn Diagrams Smart board- IPADS/IPODS Computers Anchor Chart Paper Science Journal
	Technology Hardware
	iPad iPod Computer SMART Board
	Technology Software

	<p>“TeslaTown” is an app for 3rd grade to explore different sources of power.</p> <p>Educreation</p> <p>Solar Panel Simulation</p> <p>Solar Energy</p> <p>Solar Panel Introduction</p> <p>Solar Power</p> <p>Alternative Energy in Action: A Visit to a Solar House</p> <p>Energy Quest Game</p> <p>Solar Energy Defenders Game</p>
Comments	<p>If you have an questions you may contact:</p> <p>Rhonda McConnell at rhonda.mcconnell@sulliank12tn.net</p> <p>Jessica Carr at jessicawcarr@hotmail.com</p>