

Unit 1 Topic/Storyline: Structure, Properties and Interactions of Matter	Grade 5	Days: 15-21
Question:		
How can we observe and explain how we know that matter can not be created or destroyed?		
Essential Questions:		
<ol style="list-style-type: none"> <li>1. How can understanding the properties of matter impact our lives?</li> <li>2. How can we prove that matter is neither created nor destroyed?</li> </ol>		
Enduring Understandings		
<ul style="list-style-type: none"> <li>- Matter is a term that applies to all of the things around us and it is made of particles that are too small to see.</li> <li>- When substances are heated, cooled, or mixed the total weight before and after is always the same.</li> <li>- Substances can be identified based on observable and measurable properties.</li> <li>- Sometimes when two substances are mixed, each of the substances keeps its original properties and sometimes a new substance is formed.</li> <li>- Matter can neither be created nor destroyed.</li> </ul>		
Storyline Narrative / Big Ideas: This unit will focus on matter and its characteristics. Learners will be able to identify the structure of each state of matter and be able to define and describe matter based on physical traits. Additionally, students will experiment with various materials to decide whether matter can be created and/or destroyed.		
Key Words: compress, conduction, detect, dissolve, mineral, relative, solubility, substance, atom, accuracy, alternative, conserve, Kelvin, react, substance		
Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts
<b>Developing and Using Models</b> Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions. -Develop a model to describe phenomena. (5-PS1-1)	<b>PS1.A: Structure and Properties of Matter</b> Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means. A model	<b>Cause and Effect</b> Cause and effect relationships are routinely identified, tested, and used to explain change. (5-PS1-4)  <b>Scale, Proportion, and Quantity</b> Natural objects exist from the very small to the immensely large. (5-PS1-1) -Standard units are used to measure and describe physical quantities such as weight, time,
<b>Planning and Carrying Out</b>		

<p><b>Investigations</b></p> <p>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.</p> <p>-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. (5-PS1-4)</p> <p>-Make observations and measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon. (5-PS1-3)</p> <p><b>Using Mathematics and Computational Thinking</b></p> <p>Mathematical and computational thinking in 3–5 builds on K–2 experiences and progresses to extending quantitative measurements to a variety of physical properties and using computation and mathematics to analyze data and compare alternative design solutions.</p> <p>-Measure and graph quantities such as weight to address scientific and engineering questions and problems. (5-PS1-2)</p>	<p>showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including the inflation and shape of a balloon and the effects of air on larger particles or objects. (5-PS1-1)</p> <p>The amount (weight) of matter is conserved when it changes form, even in transitions in which it seems to vanish. (5-PS1-2) - Measurements of a variety of properties can be used to identify materials. (Boundary: At this grade level, mass and weight are not distinguished, and no attempt is made to define the unseen particles or explain the atomic-scale mechanism of evaporation and condensation.) (5-PS1-3)</p> <p><b>PS1.B: Chemical Reactions</b></p> <p>When two or more different substances are mixed, a new substance with different properties may be formed. (5-PS1-4)</p> <p>-No matter what reaction or change in properties occurs, the total weight of the substances does not change. (Boundary: Mass and weight are</p>	<p>temperature, and volume. (5-PS1- 2),(5-PS1-3)</p> <hr/> <p><b>Connections to Nature of Science</b></p> <p><u>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</u></p> <p>Science assumes consistent patterns in natural systems. (5-PS1-2)</p>
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	not distinguished at this grade level.) (5-PS1-2)	
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Consolidated Supply List -

- Hot Plate
- Mixing Bowl
- Tongs
- Masking Tape
- One Gallon Ziplock Bag (per student)
- One Straw (per student)
- Hand Lenses
- Baking Soda
- Cornstarch
- Salt
- Sugar
- Baby Powder
- Paper Cups
- Iodine
- Vinegar
- Eye Droppers
- Scale or Balance
- Chocolate for melting
- 2 Beakers
- Petri Dish
- Spoon
- Graduated Cylinder
- Balloon
- Rubberband
- Ceramic Dish
- Magnesium Ribbon
- 2 Test Tubes
- Nitrate Solution
- Sodium Hydroxide
- Small Bowl or Cup (per student)
- Cup, Mug, or Drinking glass (per student)
- Fork
- Measuring Spoon
- Food Coloring

OPTIONAL MATERIALS

- Play Do
- Measuring Cup
- 2 clear plastic or glass containers per student, approximately 2 ¼ cups in size. Make sure they are containers you can write on with marker

Episode 1

Engage/Elicit Ideas

Days: 2

Lessons	Resources
<p><b>Lesson 1: Phenomenon</b></p> <p><b>Gather:</b> Show phenomena video and elicit initial ideas. Have students draw a model of what they saw in the video in their science journals. Point out what makes a good science model - labels, pictures, arrows, etc.</p> <p><b>Reason:</b> Students write down their noticing and wonders about the phenomena.</p> <p><b>Communicate:</b> Class Discussion - Share their noticing about the pictures and wonders.</p> <p><b>Lesson 2: Imploding Soda Can</b></p> <p><b>Gather:</b> Demonstrate how a soda can will implode when heated and placed in cool water. You may have to do this a few times (for small groups of students) so that each student has a chance to watch closely.</p> <p><b>Reason:</b> Students will write what they noticed as they watched the soda can and create an annotated model showing what they think caused the can to implode.</p> <p><b>Communicate:</b> Students will share with a partner or in a small group before sharing out as a class. Record their thoughts and ideas on a class chart that can be revisited throughout the unit.</p>	<p>Episode Supply List:</p> <p>Lesson 1: <a href="#">Oil tanker video</a></p> <p>Lesson 2: <a href="#">Plan</a></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>-Empty soda can with tab removed</li> <li>-Ice Water</li> <li>-Hot Plate</li> <li>-Mixing Bowl</li> <li>-Tongs</li> </ul>
<p><b>Episode 2</b></p> <p><b>Explore</b></p> <p>Days: 6-11</p>	
Lessons	Resources
<p><b>Lesson 1: Book Lift (1 day)</b></p> <p><b>Gather:</b> Class Discussion - Is there a way that you can lift this book off your desk without using your arms or hands? Then conduct the book lift experiment.</p> <p><b>Reason:</b> Students will draw a model of what they think happened during the book lift experiment.</p> <p><b>Communicate:</b> Students will participate in a quick gallery walk to see classmates' models and then conclude with a class discussion.</p> <p><b>Lesson 2: Mystery Substances (2-6 days)</b></p>	<p>Episode Supply List:</p> <p>Lesson 1: <a href="#">Air Lift</a></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>-1-gallon ziploc bag for each student</li> <li>-1 straw for each student</li> <li>-Masking tape</li> <li>-Books</li> </ul>

(NOTE: If you alternate science and social studies, break your class up into groups and have each group test one of the substances and then jigsaw out. If you teach science every day, do one substance each day.)

**Gather:** Complete the mystery substance experiment.

**Reason:** Students will observe and record their noticing.

**Communicate:** Record students' observations on a class chart.

### **Lesson 3: Conservation of Matter Day (2 days)**

**Gather:** Demonstrate the Conservation of Matter as a whole group.

**Reason:** Students will record the data from the class experiment.

**Communicate:** Write Around using the following questions:

1. What happens to the mass of a substance when it changes phases between solid to liquid?
2. What happened to each of the substances?
3. Were the substances destroyed?

### **Lesson 4: Conservation of Mass in a Chemical**

**Reaction Lab (1-2 days)** (NOTE: If you alternate science and social studies, only do stations 2 and 3. If you teach science every day, you can complete all four stations.)

**Gather:** Demonstrate the Conservation of Mass in a Chemical Reaction Lab as a whole group.

**Reason:** Students will record their starting observations and ending observations from the class experiment.

**Communicate:** 1. Science writing- "What conclusions can you make about Conservation of Mass? Use examples and evidence from the lab to support your claim." 2. Create an annotated model.

### Lesson 2: [Plan](#) [Recording Sheet](#)

Materials:

- Hand lens
- 5 Mystery Powders (baking soda, cornstarch, salt, sugar, and baby powder) per group (about 1 TBSP) placed in a paper cup
- 3 substances (iodine, water, and vinegar)... 1 or 2 drops of each liquid will be mixed with each powder
- Eye droppers
- OPTIONAL: Heat source (If you test with a heat source, you will also need foil.)

### Lesson 3: [Plan](#)

Materials:

- Scale
- Plastic bottle filled with ice
- Empty plastic bottle
- Empty zipper-seal plastic bag
- Chocolate
- Glass beaker
- Petri dish
- Spoon
- Hot plate

### Lesson 4: [Plan](#)

Materials:

- Balance or scale
  - Scrap Paper
  - Baking Soda
  - Vinegar
  - Graduated cylinder
  - Balloon
  - Rubber band
- OPTIONAL MATERIALS FOR STATIONS 1 AND 4:
- Ceramic dish
  - Magnesium ribbon
  - Wand style lighter
  - 2 beakers
  - Test tube with Copper (II) Nitrate solution

	-Test tube with Sodium Hydroxide solution
<b>Episode 3</b> <b>Explain</b> Days: 4	
Lessons	Resources
<p><b>Lesson 1:- Vocabulary Splash</b>  <b>Gather</b> - display all the unit's vocabulary words on the board. Read each word to the class with a brief explanation of the words.</p> <p><b>Reason</b> - partners sort these words in an open sort using their prior knowledge. Label each group of words.</p> <p><b>Communicate</b> - share how they sorted these words to the class.</p> <p><b>Lesson 2: Epic Book - How Do We Measure Matter?</b>  <b>Vocab. Focus</b> - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.</p> <p><b>Gather:</b> Digital Read Aloud of "How Do We Measure Matter"</p> <p><b>Reason:</b> Complete the quiz that goes along with the Epic book.</p> <p><b>Communicate:</b> As a class, create a three-column t-chart that lists the characteristics of each state of matter and how you would measure it.</p> <p><b>Lesson 3: BrainPOP and Matter Sorter Game</b>  (NOTE: If you teach science every day, you can supplement this topic with the additional activities that BrainPOP provides.)</p> <p><b>Vocab. Focus</b> - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.</p> <p><b>Gather:</b> Watch the States of Matter video on BrainPOP independently. When students finish they can play the Matter Sorter Game.</p> <p><b>Reason:</b> Create an annotated model for each state of</p>	<p>Episode Supply List:  Lesson 1:  Materials: Epic Book "<a href="#">How Do We Measure Matter</a>"</p> <p>Lesson 2:  Materials: BrainPop States of Matter Video  - <a href="#">Matter Sorter Game</a></p> <p>Lesson 3:  Materials: Video - <a href="#">What's My Property</a>"  - <a href="#">Template for foldables</a></p>

matter mentioned in the video.

**Communicate:** Gallery Walk

**Lesson 4: Properties of Matter Video**

**Vocab. Focus** - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

**Gather:** Watch the “What’s My Property” video as a Video Aloud.

**Reason:** Students will create a vocabulary foldable in their notebooks highlighting important vocabulary words. All students must include the definitions for physical property and chemical property, but can then chose 3-4 additional vocabulary words they feel should be highlighted.

**Communicate:** Students will share out the vocabulary words they chose to include in their foldable. As students share, teacher creates a class chart listing the different properties that can be used to describe a solid, liquid or a gas.

**Lesson 5: Newsela Article The Conservation of Matter in Physical and Chemical Changes**

**Vocab. Focus** - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

**Gather:** Read the article on Newsela.

**Reason:** Find the main idea and 3 supporting details for each of the 3 sections.

**Communicate:** As a class, share main ideas for each section and use them to identify the central idea of the article.

Additional Newsela Articles:

[Properties of Matter](#)

[Phase Changes Between States of Matter](#)

[Changes in Matter:physical versus chemical changes](#)

**Lesson 6: Vocabulary**

**Gather** - display all the unit’s vocabulary words on the board. Read each word to the class with a brief explanation of the words.

Lesson 4:

Materials: NEWSEL A Article - [The Conservation of Matter During Physical and Chemical Changes](#)

<b>Reason</b> - partners sort these words in an open sort using their prior knowledge. Label each group of words.	
<b>Communicate</b> - share how they sorted these words to the class.	

**Episode 4**  
**Elaborate/Build New Content/Apply new Content**  
Days: 2

Activity	Resources
<p>Students will complete the activity: A Recipe for A Mesmerizing Mixture</p> <p>OPTIONAL ACTIVITY FOR EXTENSION: Polar Ice Caps</p>	<p>Episode Supply List:  Plan: <a href="#">A Recipe for A Mesmerizing Mixture</a>.</p> <p>Materials:</p> <ul style="list-style-type: none"> <li>-Small bowl or cup</li> <li>-Cup, mug or drinking glass</li> <li>-Fork</li> <li>-Eye Dropper</li> <li>-Measuring Spoon</li> <li>-Cornstarch</li> <li>-Water</li> </ul> <p>OPTIONAL: Food Coloring or Tempera Paint</p> <p>Plan: <a href="#">Polar Ice Caps</a></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>-Play-Doh or modeling clay</li> <li>-Measuring cup</li> <li>-Clear plastic or glass containers, approximately 2 <math>\frac{1}{4}</math> cups in size (2). Make sure they are containers you can write on with marker.</li> <li>-Colored tape or permanent marker</li> <li>-Tap water</li> <li>-Ice cubes</li> </ul>

**Episode 5**  
**Evaluate**  
Days: 1-2

Assessment	Resources
Use States of Matter Assessment located in the Shared Drive.	<p>Episode Supply List:</p> <ul style="list-style-type: none"> <li><a href="#">-Study Guide</a></li> <li><a href="#">-Assessment</a></li> </ul>

Unit 2 Topic/Storyline: Energy and Organisms	Grade 5	Days
Question:		
How can we explain the role that the sun plays in helping ecosystems survive and flourish?		
Essential Questions:		
<ol style="list-style-type: none"> <li>1. How is the sun important to our lives?</li> <li>2. How is the sun important to all organisms on earth?</li> <li>3. In what ways is the sun related to the flow of energy?</li> </ol>		
Enduring Understandings		
<ul style="list-style-type: none"> <li>- Everything gets its energy from the sun.</li> <li>- Plants, animals, and humans rely on each other for energy.</li> </ul>		
Storyline Narrative / Big Ideas: This unit will focus on ways that organisms find and make energy. Students will learn about the balance between plants and animals within an ecosystem. Finally, students will create chains and webs that show how the sun impacts entire ecosystems.		
Key Words: mass, thermal, atom, conserve, energy flow, flow chart, Potential Energy, Kinetic Energy, Heat Energy, Solar Energy, Photosynthesis, Cellular Respiration, Energy Flow, Control		
Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts
<b>Developing and Using Models</b> Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions. -Use models to describe phenomena. (5-PS3-1)	<b>PS3.D: Energy in Chemical Processes and Everyday Life</b> The energy released [from] food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water). (5-PS3-1)  <b>LS1.C: Organization for Matter and Energy</b>	<b>Energy and Matter</b> Energy can be transferred in various ways and between objects. (5-PS3-1)

	<p><b>Flow in Organisms</b>  Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion.  (secondary to 5-PS3-1)</p>	
Consolidated Supply List -		
<ul style="list-style-type: none"> <li>- 5-6 Plants</li> <li>- Plastic Bags</li> <li>- Paper Bags</li> <li>- Petroleum Jelly</li> <li>- Bromothymol Blue</li> <li>- Safety Goggles</li> <li>- Straws</li> <li>- 5-6 Elodea Plants</li> <li>- 5-6 Funnels</li> <li>- 5-6 Trays</li> </ul>		
<p>Episode 1  Engage/Elicit Ideas  Days: 2</p>		
Lessons		Resources
<p><b>Lesson 1: Phenomenon</b>  <b>Gather:</b> Show phenomena slide show and elicit initial ideas. Ask students why they think sunflowers move with the sun. Have students draw a model explaining their thinking in their science journals. Point out what makes a good science model - labels, pictures, arrows, etc.</p> <p><b>Reason:</b> Students write down their noticing and wonderings about the phenomena.</p> <p><b>Communicate:</b> Class Discussion - Share their noticing and wonderings about the time laps.</p>		<p>Episode Supply List:  <a href="#">Phenomenon</a></p>
<p><b>Episode 2</b>  <b>Explore</b>  Days: 3</p>		
Lessons		Resources
<b>Lesson 1: Plant Lab</b>		Episode Supply List:

<p><b>Gather:</b> Set up Plant Lab.</p> <p><b>Reason:</b> Based on what they know about plants, students will create a hypothesis that shows what they think will happen to their plant.</p> <p><b>Communicate:</b> Record each group's hypothesis on a class chart so that you can check in on the status of each group's hypotheses throughout the two week period.</p> <p><b>Lesson 2: Photosynthesis and Cellular Respiration</b></p> <p><b>Lab Part 1</b></p> <p><b>Gather:</b> Set up Part 1 of the Photosynthesis and Cellular Respiration Lab.</p> <p><b>Reason:</b> Students will record observations from Part 1 of the lab. Then have students hypothesize what will happen when the test tubes are placed in the sun.</p> <p><b>Communicate:</b> Have each group share out their hypothesis with the class.</p> <p><b>Lesson 3: Photosynthesis and Cellular Respiration</b></p> <p><b>Lab Part 2</b></p> <p><b>Gather:</b> Review day 1 of the Photosynthesis and Cellular Respiration Lab. Students can take a gallery walk to observe classmates' results.</p> <p><b>Reason:</b> Students will record observations.</p> <p><b>Communicate:</b> As a class discuss what would happen if you were to put a snail into the water.</p>	<p><b>Lesson 1:</b></p> <p><a href="#"><u>Plant Lab</u></a></p> <ul style="list-style-type: none"> <li>- One control plant</li> <li>- One plant for each group</li> <li>- Plastic bags</li> <li>- Paper bags</li> <li>- Petroleum Jelly</li> </ul> <p><b>Lesson 2:</b></p> <p><a href="#"><u>Photosynthesis &amp; Cellular Respiration Lab</u></a></p> <ul style="list-style-type: none"> <li>- Eye dropper</li> <li>- Bromothymol Blue (BTB)</li> <li>- 2 Test Tubes with cap (per group)</li> <li>- Safety Goggles</li> <li>- 2 250mL Beakers or Clear Cups (per group)</li> <li>- Water</li> <li>- Plastic Straws</li> <li>- Elodea or Similar Plant for each group</li> <li>- 1 Funnel (per group)</li> <li>- 1 Tray (per group)</li> </ul>
<p><b>Episode 3</b></p> <p><b>Explain</b></p> <p><b>Days:</b> 3</p>	
<p><b>Lessons</b></p> <p><b>Lesson 1:- Vocabulary Splash</b></p> <p><b>Gather</b> - display all the unit's vocabulary words on the board. Read each word to the class with a brief explanation of the words.</p> <p><b>Reason</b> - partners sort these words in an open sort using their prior knowledge. Label each group of words.</p> <p><b>Communicate</b> - share how they sorted these words to the class.</p>	<p><b>Resources</b></p> <p>Episode Supply List:</p> <p><b>Lesson 1:</b></p> <ul style="list-style-type: none"> <li>- <a href="#"><u>Potential Energy</u></a></li> <li>- <a href="#"><u>Heat Energy</u></a></li> <li>- <a href="#"><u>Kinetic Energy</u></a></li> <li>- <a href="#"><u>Solar Energy</u></a></li> </ul>

## **Lesson 2: Types of Energy**

(NOTE: If you alternate science and social studies, break your class up into groups and have each group read and take notes on one of the types of energy and then jigsaw out. If you teach science every day, do one type of energy each day.)

**Vocab. Focus** - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

**Gather:** Take notes on your assigned type of energy..

**Reason:** Create a teaching chart that will be used to help your peers learn about your type of energy.

**Communicate:** Teach your peers using the chart you created. (Can also be done using Flipgrid.)

## **Lesson 3: Photosynthesis**

**Vocab. Focus** - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

**Gather:** Watch The Magic School Bus Video: Gets Planted (Photosynthesis).

**Reason:** In science notebooks, students write their own explanation of how photosynthesis works.

**Communicate:** Students will share out their explanations to create a class explanation/definition of photosynthesis.

## **Lesson 4: Cellular Respiration**

**Vocab. Focus** - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

**Gather:** Watch the Cellular Respiration video on BrainPOP independently.

**Reason:** Create a diagram of what happens during cellular respiration in their science notebooks.

**Communicate:** Gallery Walk

## **Lesson 4: Energy Flow**

**Vocab. Focus** - choose a few vocabulary words to focus on. Students write the word, draw a picture of the word and write the word in a sentence in their journals.

## Lesson2:

The Magic School Bus Video: Gets Planted ([Photosynthesis](#))

## Lesson 3:

- [Cellular Respiration BrainPop](#)

## Lesson 4:

[The Cycle of Photosynthesis and Cellular Respiration](#)  
[PBS Video: Cellular Respiration](#)

**Gather:** Read NEWSEL A article: The Cycle of Photosynthesis and the PBS Video on Cellular Respiration.

**Reason:** Create an annotated model of how photosynthesis and cellular respiration are connected.

**Communicate:** Students will participate in a gallery walk to see their classmates annotated models.

Additional Resources:

Epic Books on [Photosynthesis](#)

Crash Course YouTube on [Photosynthesis](#)

Additional BrainPop Activities for both Photosynthesis and Cellular Respiration

Ducksters Article and Quiz: [Energy](#)

Ducksters Articles for each type of energy also has a quiz

### **Lesson 7: Vocabulary**

**Gather** - display all the unit's vocabulary words on the board. Read each word to the class with a brief explanation of the words.

**Reason** - partners sort these words in an open sort using their prior knowledge. Label each group of words.

**Communicate** - share how they sorted these words to the class.

### **Episode 4**

#### **Elaborate/Build New Content/Apply new Content**

**Days:** 3

Activity	Resources
Students will create a teaching tool (FlipGrid, poster, Google Slides) that shows the connection between photosynthesis and cellular respiration.	Episode Supply List:

### **Episode 5**

#### **Evaluate**

**Days:** 1-2

Assessment	Resources
Use Unit 2 Assessment located in the Shared Drive.	Episode Supply List: <a href="https://docs.google.com/document/d/1Kq">https://docs.google.com/document/d/1Kq</a>

	<a href="https://docs.google.com/document/d/4HGOGYxQxtm0Pwm-KoN-We_sUDMgPnlyxZmeBET9Q/edit?usp=sharing">4HGOGYxQxtm0Pwm-KoN-We_sUDMgPnlyxZmeBET9Q/edit?usp=sharing</a>
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Unit 3 Topic/Storyline:	Grade 5	Days
Question		
Essential Questions:		
3.		
Enduring Understandings		
-		
Storyline Narrative / Big Ideas:		
<b>Key Words:</b>		
Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts
Consolidated Supply List -		
Episode 1 Engage/Elicit Ideas Days:		
Instructional Goals:		

Motivates students Phenomena - short video, text, picture, gifs, song, demonstration, maps  
Notice and Wonder Statements (10 observations and 10 Questions)

Model

Students draw a model to explain or predict. Then write about what they drew or label the model.  
Claim - make a claim about the phenomena.

Lessons	Resources
Lesson 1: Gather Reason Communicate	Episode Supply List:
Lesson 2: Gather Reason Communicate	

**Episode 2**

**Explore**

Days:

Instructional Goals:

Experience - Students explore and carry out investigations from wonder statements or claims from the first episode.

Data - Collect data from the investigations.

Research - obtain information.

Model - Students revise their models

Lessons	Resources
Lesson 1: Gather Reason Communicate	Episode Supply List:
Lesson 2: Gather Reason Communicate	
Lesson 3: Gather Reason Communicate	

**Episode 3****Explain**

Days:

## Instructional Goals:

Learn information to make sense of their science explorations from the explore phase.

Analyze and interpret the data (SP4) .How does the Evidence support this claim?

Reading, listening and/or discussing text, articles, videos

Vocabulary Instruction

Teacher directed lessons.

Lessons	Resources
Lesson 1: Gather Reason Communicate	Episode Supply List:
Lesson 2: Gather Reason Communicate	
Lesson 3: Gather Reason Communicate	
Lesson 4: Gather Reason Communicate	

**Episode 4****Elaborate/Build New Content/Apply new Content**

Days:

## Instructional Goals:

Students have the opportunity to practice what they have learned in the introduction section to consolidate learning and develop understanding. Use what they learned to apply to another experience.

Back to phenomena to explain the Reasoning

Independent Activities

STEM projects

Choice Boards

Debates

Activity	Resources
	Episode Supply List:
<b>Episode 5</b> <b>Evaluate</b> Days:  Instructional Goals: Assessment -problem solving, system analysis, decision making, rubrics, project, student self assessment, journal writing Reflect	
Assessment	Resources
	Episode Supply List:

Unit 4 Topic/Storyline:	Grade 5	Days
Question		
Essential Questions:		
4.		
Enduring Understandings		
-		
Storyline Narrative / Big Ideas:		

<p><b>Key Words:</b></p>		
Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts
<p>Consolidated Supply List -</p>		
<p><b>Episode 1</b>  <b>Engage/Elicit Ideas</b>  <b>Days:</b></p> <p><b>Instructional Goals:</b>  Motivates students <u>Phenomena</u> - short video, text, picture, gifs, song, demonstration, maps  <u>Notice and Wonder</u> Statements (10 observations and 10 Questions)  <u>Model</u>  Students draw a model to explain or predict. Then write about what they drew or label the model.  <u>Claim</u> - make a claim about the phenomena.</p>		
<p><b>Lessons</b></p>		<b>Resources</b>
<p>Lesson 1:  Gather  Reason  Communicate</p> <p>Lesson 2:  Gather  Reason  Communicate</p>		Episode Supply List:
<p><b>Episode 2</b>  <b>Explore</b>  <b>Days:</b></p> <p><b>Instructional Goals:</b>  <u>Experience</u> - Students explore and carry out investigations from wonder statements or claims from the first episode.  <u>Data</u> - Collect data from the investigations.  <u>Research</u> - obtain information.  <u>Model</u> - Students revise their models</p>		

Lessons	Resources
<p>Lesson 1: Gather Reason Communicate</p> <p>Lesson 2: Gather Reason Communicate</p> <p>Lesson 3: Gather Reason Communicate</p>	<p>Episode Supply List:</p>
<p><b>Episode 3</b> <b>Explain</b> Days:</p> <p>Instructional Goals: Learn information to make sense of their science explorations from the explore phase. <u>Analyze</u> and interpret the data (SP4) . How does the <u>Evidence</u> support this claim? Reading, listening and/or discussing text, articles, videos Vocabulary Instruction Teacher directed lessons.</p>	
Lessons	Resources
<p>Lesson 1: Gather Reason Communicate</p> <p>Lesson 2: Gather Reason Communicate</p> <p>Lesson 3: Gather Reason Communicate</p> <p>Lesson 4:</p>	<p>Episode Supply List:</p>

Gather Reason Communicate	
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**Episode 4**  
**Elaborate/Build New Content/Apply new Content**  
Days:

Instructional Goals:

Students have the opportunity to practice what they have learned in the introduction section to consolidate learning and develop understanding. Use what they learned to apply to another experience.

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Independent Activities

STEM projects

Choice Boards

Debates

Activity	Resources
	Episode Supply List:

**Episode 5**

**Evaluate**

Days:

Instructional Goals:

Assessment -problem solving, system analysis, decision making, rubrics, project, student self assessment, journal writing

Reflect

Assessment	Resources
	Episode Supply List:

Unit 5 Topic/Storyline:	Grade 5	Days
Question		

Essential Questions:						
5.						
Enduring Understandings						
-						
Storyline Narrative / Big Ideas:						
<b>Key Words:</b>						
<table border="1"> <tr> <th>Science and Engineering Practices</th> <th>Disciplinary Core Ideas</th> <th>Cross Cutting Concepts</th> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts			
Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts				
Consolidated Supply List -						
<p>Episode 1  Engage/Elicit Ideas  Days:</p> <p>Instructional Goals:  Motivates students <u>Phenomena</u> - short video, text, picture, gifs, song, demonstration, maps  <u>Notice and Wonder</u> Statements (10 observations and 10 Questions)  <u>Model</u>  Students draw a model to explain or predict. Then write about what they drew or label the model.  <u>Claim</u> - make a claim about the phenomena.</p>						
<table border="1"> <thead> <tr> <th>Lessons</th> <th>Resources</th> </tr> </thead> <tbody> <tr> <td> Lesson 1:  Gather  Reason  Communicate   Lesson 2: </td> <td>Episode Supply List:</td> </tr> </tbody> </table>	Lessons	Resources	Lesson 1: Gather Reason Communicate  Lesson 2:	Episode Supply List:		
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Lesson 1: Gather Reason Communicate  Lesson 2:	Episode Supply List:					

Gather Reason Communicate	
<b>Episode 2</b> <b>Explore</b> Days:  Instructional Goals: <u>Experience</u> - Students explore and carry out investigations from wonder statements or claims from the first episode. <u>Data</u> - Collect data from the investigations. <u>Research</u> - obtain information. <u>Model</u> - Students revise their models	
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Lesson 2: Gather Reason Communicate	
Lesson 3: Gather Reason Communicate	
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#### **Episode 4** **Elaborate/Build New Content/Apply new Content**

Days:

Instructional Goals:

Students have the opportunity to practice what they have learned in the introduction section to consolidate learning and develop understanding. Use what they learned to apply to another experience.

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Independent Activities

STEM projects

Choice Boards

Debates

Activity	Resources
	<p>Episode Supply List:</p>

#### **Episode 5**

**Evaluate**

Days:

Instructional Goals:

Assessment -problem solving, system analysis, decision making, rubrics, project, student self assessment, journal writing

Reflect

Assessment	Resources
	Episode Supply List: