Hello Students, Families and Caregivers,

This resource packet includes multiple projects that students can work on at home independently or with family members or other adults. Each project can be completed over multiple days, and the projects can be completed in any order. These projects are standards-aligned and designed to meet the Remote Learning instructional minutes guidelines by grade band.

Additional enrichment activities are also available and organized into Read, Write, Move, Design, and Solve categories to engage students in learning in many different ways while at home. Please be sure to also pick up an enrichment packet for access to these activities.

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# 5th Grade Literacy Project: Earth Day Everyday

<table>
<thead>
<tr>
<th>Estimated Time</th>
<th>Total Time 70-80 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level Standard(s)</td>
<td>RL.5.5 Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.</td>
</tr>
<tr>
<td></td>
<td>W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.</td>
</tr>
<tr>
<td></td>
<td>L.5.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.</td>
</tr>
<tr>
<td>Caregiver Support Option</td>
<td>Please read the passage and poems with students and discuss meaning.</td>
</tr>
<tr>
<td>Materials Needed</td>
<td>Lined Paper</td>
</tr>
<tr>
<td></td>
<td>Pen/Pencil</td>
</tr>
<tr>
<td></td>
<td>Optional: Construction paper, scissors, glue, crayons</td>
</tr>
<tr>
<td>Question to Explore</td>
<td>Why is it important to conserve Earth on Earth Day but also all year long?</td>
</tr>
<tr>
<td>Student Directions</td>
<td>Each activity has its own directions.</td>
</tr>
</tbody>
</table>

## Activity 1: What is Earth Day?

**Directions:** Before we start with poems, let’s learn some information about Earth Day. Complete the three activities below to get you started.

### A. Pre-read exercise:

One thing good readers do is use the information they already know (schema) to help them understand what they’re reading. Let’s activate our schema! Before we start reading, answer the following questions in the chart:

<table>
<thead>
<tr>
<th>What do I already know about Earth Day?</th>
<th>What do I already know about helping Earth?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B. Now we’re going to read about Earth Day. As you read, try to do more than just collect the facts as they come. Try instead to create an understanding. To do this, compare and/or connect the information the author is giving you with what you already know. Create a mental picture of the new information you are already learning to get a bigger bite of understanding! (From The Reading Strategies book by Jennifer Serravallo)

Now, read the 11 interesting facts about Earth Day from Dosomething.org. While you read, underline new facts and put a star next to facts where you used your schema.

1. The first Earth Day was celebrated on April 22, 1970.
2. Earth Day originated in the U.S. but became recognized worldwide by 1990.
3. On Earth Day 2009, Disney released a documentary film called Earth that followed the migration paths of four animal families.
4. On the very first Earth Day, 20 million people gathered in the streets of America to protest the industrial revolution. An environmental movement was born as a result.
5. Every year on April 22, men, women, and children collect garbage, plant trees, clean up coral reefs, show movies, sign petitions, and plan for a better future for our planet.
6. Gaylord Nelson founded Earth Day while he was working as a U.S. senator.
7. Earth Day was renamed officially by the U.N. in 2009 as International Mother Earth Day.
8. Some schools and communities celebrate Earth Day for a whole week to expand the time frame that people focus on the Earth and how they can preserve it.
9. On Earth Day 2012, more than 100,000 people rode bikes in China to reduce CO2 emissions.
and save fuel.

10. In an Earth Day celebration in 2011, 28 million trees were planted in Afghanistan by the Earth Day Network.

11. In Panama, 100 endangered species of orchids were planted and maintained to prevent their extinction in honor of Earth Day.

Reread the facts above and circle the following words: originated, migration, protest, expand, preserve, reduce, emissions, and prevent. Ask yourself while you read: What do these vocabulary words mean? What clues around the word can I use to figure it out?

C. Vocabulary: Now, use context clues around the word to determine the best definition in the table below. Write in the letter of the definition next to the vocabulary word. Number 1 is already completed.

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Originated G.</td>
<td>A. An act or instance of emitting or discharging</td>
</tr>
<tr>
<td>2. Migration ___</td>
<td>B. To spread or stretch out</td>
</tr>
<tr>
<td>3. Protest ___</td>
<td>C. To bring down to a smaller extent, size, amount, or number</td>
</tr>
<tr>
<td>4. Expand ___</td>
<td>D. A number or body of persons or animals migrating together</td>
</tr>
<tr>
<td>5. Preserve ___</td>
<td>E. To keep something from happening</td>
</tr>
<tr>
<td>6. Reduce ___</td>
<td>F. To keep alive or in existence</td>
</tr>
<tr>
<td>7. Emissions ___</td>
<td>G. To take its origin or rise; begin; start; arise</td>
</tr>
<tr>
<td>8. Prevent ___</td>
<td>H. To fight for something you believe in</td>
</tr>
</tbody>
</table>

Activity 2: Reading Poems

Poems are often organized into stanzas. A stanza is a related group of lines or verses in a poem. A stanza also can be a verse in paragraph form. They can keep on going without punctuation. It may also be a line in a poem.

A. As you read each of these poems, pay close attention to the first stanza; what information does the first stanza give that is important to what happens in the rest of the poem’s stanzas? Source: Earth Day Kids Poems
### My Example:

<table>
<thead>
<tr>
<th>Poem</th>
<th>Analyze stanza 1</th>
</tr>
</thead>
</table>
| **WHAT YOU CAN DO**  
When you see litter in the streets  
And the air smells of pollution  
When you feel like it's all piling up  
Remember there is a solution  
There's something each of us can do  
To keep the rivers clean  
To keep fresh the air we breathe  
And keep the forests green  
Help clean a beach  
Or recycle bottles and cans  
Learn about the problems we face  
And help others understand  
It doesn't have to be a lot  
If we each just do our share  
So take time out on Earth Day  
To show the Earth you care  |
| I think stanza 1 gives information about how there is litter and pollution in the streets. But then it says there is a solution, so the rest of the poem’s stanzas will probably be about what we can do to help. |

### Your turn!

<table>
<thead>
<tr>
<th>Poem</th>
<th>Analyze stanza 1</th>
</tr>
</thead>
</table>
| **I Shall Protect the Forests**  
by Lenore Hetrick  

Have you ever really looked at trees,  
And seen their perfect beauty?  
If you have, you know that their protection  
Is a stern and sacred duty.  
Protection of that spreading grandeur,  
Through many summers grown,  
Safeguarding of those temples green  
Where the song of bird is known.  

Then remember that the forest fire  
Is an enemy to fight,  
It is a tree assassin to be  
Watched both day and night,  
A camp fire left unguarded or  
A match tossed carelessly  
May bring destruction with great loss,  
And deepest tragedy.  

When next you see the wide-flung branches  
Of a graceful pine,  
Think to yourself, "A sacred service  
Is part and parcel of mine.  
I resolve to protect all trees forever,  
And guard their heaven-sent beauty,  
To save the forests of our land  
Shall ever be my duty."  |
| I think... |
The Earth Speaks
by Lenore Hetrick

The turning earth spoke in a somber voice.
"Four seasons I give you," its deep voice said.
"I give you spring when the lilacs bloom,
I give you autumn when the maple is red.

"Summer I give you all crowned with sunshine,
And winter of snow and icicle spears.
Four seasons I give you with all their joys!
And all their pleasures and all their fears!

"Take my four gifts and use each one,
Use each wisely, kindly and well,
So that upon the year's last hour
A worthy record you date to tell."

The turning earth spoke but once again,
"Four season I give you," its voice was low.
"The gifts are yours and yours is the task
To use my gifts as best you know."

The Artist
by Lenore Hetrick

Lady Nature is an artist
With an eye for pretty pictures.
She paints the sky most wonderfully,
And how I love her colored mixtures.

If I could have a dress of blue,
Just like bright Nature paints the sky,
There isn't another thing in the world
For which I know I'd ever sigh.

But, yes! If I had slippers made
The flaming red of the setting sun,
I'd dance and dance for hours and hours
Until the day was closed and done!

And oh! If I could have a rainbow
As a sash upon my dress,
I'd feel so grand that never again
Would I wear plaid – or anything less.
B. Draw it!

My favorite poem: ____________________________________________

What does it teach about conserving/saving Earth?
____________________________________________________________________________________________

Now that you have chosen your favorite poem and explained how it promotes conserving earth, think of what it makes you visualize. On a separate sheet of paper, draw this visualization and include 4 details from the poem.

Activity 3: Create your own poem!

Directions: Now that you know all about Earth Day and have read poems about conserving Earth, it is your turn to create a poem with a similar message. Your poem should promote taking care of Earth all year long and have at least 4 stanzas.

A. Think of your own title, or choose one from the following list to be the topic of your poem:

   A Clean Earth Is a Happy Earth!
   A Good Planet Is Hard to Find.
   Always Act for Safer Earth!
   Think Clean and Go Green.
   Away from Pollution, Towards Solutions.
   Be Earth Friendly.
   Dare to Be a Force of Nature.
   What on Earth Are You Doing for Earth Day?
   What Will Your Children Breathe?
   When You Conserve Earth, You Conserve Life!

B. Use the example poems above and below to help you write and illustrate your poem. Get creative! What shape/drawing can you put your poem in? Are there any vocabulary words from activity 1 you can include?
C. Once your poem is finished, share it with someone in your household or read it out loud to yourself (maybe even record it!). If you read to someone else, ask them questions such as: How did the poem make you feel? What did you visualize? What information did stanza 1 give you to help you understand the whole poem?

D. Optional: Ask a guardian for help, and email a picture of your work to your teacher. He or she would love to see your creative poem!

Activity 4: Reflection

Directions: Answer the following questions on a separate sheet of paper:

A. How does your poem teach the reader about taking care of earth?
B. Think of your neighborhood. Who are some people/groups that take care of the land and environment? If you can’t think of any, what do you think we can do to change this?

Cross Content Connection:

Science: Grab a piece of paper and a pencil, and find a comfy spot at your window or, if your guardian says it is ok, your front porch. Draw one living organism you see such as a tree, bird, butterfly, or dandelion. Label its parts with arrows and captions. What are some things it needs to survive? How do humans impact this organism?

Visual Arts: Ask a guardian for the following materials for this art activity from Crafts for kids.

Materials:
- coffee filters (the flat round kind)
- washable markers
- construction paper
- crayons
- water
- spray bottle or tooth brush
- scissors
- glue

Directions:
1. Take a coffee filter and color randomly with blue and green.
2. Spray with water or sprinkle on water with a toothbrush. The colors will mix together. Allow to dry.
3. Trace hands on construction paper and cut out.
4. Glue hands together on a sheet of paper with thumbs facing out. Only glue the palm parts.
5. Glue the Earth on top of the hands.
6. Fold up the fingers to look like they are holding the Earth.
# 5th Grade Math Project: The Muffin Man Bakery Shop

<table>
<thead>
<tr>
<th>Estimated Time</th>
<th>Total Time 70-80 minutes</th>
</tr>
</thead>
</table>

## Grade Level Standard(s)
- 5.NF.A: Use equivalent fractions as a strategy to add and subtract fractions
- 5.NF.B: Apply and extend previous understandings of multiplication and division to multiply and divide fractions
- 5.MD.C: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

## Caregiver Support Option
Please feel free to help your student with reading and understanding any of the directions within this project.
At the very end of this project there is a cookie recipe. Baking cookies is an optional activity. If you and your student chooses to bake the cookies, please make sure to help your child in the kitchen.

## Materials Needed
Some required materials include paper, pencil, measuring cups *(for reference)*, measuring spoons *(for reference)*. Other optional materials include crayons or colored pencils and ingredients for baking cookies.

## Question to Explore
- How are equivalent fractions helpful when solving problems?
- How can fractions with different denominators be added together?
- How can we tell if a fraction is greater than, less than or equal to one?
- What does it mean to decompose fractions or mixed numbers?
- How can you determine the volume of three-dimensional figures?

## Student Directions
Congratulations! You’ve just opened your very own bakery called **The Muffin Man Bakery**. In this project, you will learn all about the different types of bakery items that your new bakery sells. You will also work with some special recipes that are used to make these bakery items. **Note:** These are not real recipes.

Read each question carefully. Feel free to highlight and underline important information and words in each of the questions. Make sure to show your work and explain your thinking if the question asks you to do so. Remember to include correct labels for your answers, and always double check your solutions to see if they make sense.
Activity 1: Today at the Bakery
A. You are the owner of a bakery called, The Muffin Man Bakery. Today in the bakery, you are selling cookies, cupcakes, bread, brownies, and pie. You will begin with a total of 120 bakery items in your bakery. Complete the table below to show what fraction of each item you will have for sale in your bakery today.

<table>
<thead>
<tr>
<th>Bakery Item</th>
<th>Fraction in Store</th>
<th>Fraction in Simplest Form</th>
<th>Write an Equivalent Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brownies</td>
<td>12/120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cupcakes</td>
<td>8/120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bread</td>
<td>36/120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pie</td>
<td>___/120</td>
<td>2/15</td>
<td>2/15</td>
</tr>
<tr>
<td>Cookies</td>
<td>___/120</td>
<td>6/15</td>
<td>6/15</td>
</tr>
</tbody>
</table>

B. Add or subtract the fractions of each of the following bakery items to find the total combined fraction, or the difference.

**Challenge:** Can you add or subtract using only the fractions from the “Write an Equivalent Fraction” column?

Brownies + Cookies = _______  
Cupcakes + Cookies = _______  
Cookies - Brownies = _______  
Bread - Cupcakes = _______  

Activity 2: Time to Bake
A. Everyone is so excited about the delicious brownies at The Muffin Man Bakery! People in the neighborhood want to order brownies for their family parties. Because each party has a different number of people, the bakery needs to bake different size batches of brownies for each different party. You will need to make adjustments to the amount of ingredients you’ll need for each different sized batch. Complete the table below to figure out how much of each ingredient you will need in order to double your recipe or cut your recipe in half.
### Recipe for Brownies

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Original Recipe</th>
<th>Convert to a Fraction (if possible)</th>
<th>Double the Recipe (Multiply by 2)</th>
<th>Cut the Recipe in Half (Divide by 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butter</td>
<td>½ cup</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>2 cups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocoa powder</td>
<td>1 ½ cups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flour</td>
<td>2 ½ cups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanilla</td>
<td>1 teaspoon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salt</td>
<td>½ teaspoon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baking powder</td>
<td>1 ½ teaspoons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chocolate chips</td>
<td>1 ½ cups</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Use the information in the table above to answer the following questions:

- In the Doubled Recipe, how much more chocolate chips do you use than cocoa powder?
  
  Answer: ___________________

- In the Original Recipe, how much more salt and baking powder combined do you use than vanilla?
  
  Answer: ___________________

- In the Original Recipe, how many total cups of butter, sugar, cocoa powder, flour and chocolate chips did you use? Record your answer as a fraction and a mixed number.
  
  Fraction: ___________________  Mixed Number: ___________________

- In order to deliver the brownies to the family party, you must pack them carefully inside of a box that is the shape of a rectangular prism. The box has the following measurements:
  
  Length:  8 inches  
  Width:  4 inches  
  Height:  4 inches  

  What is the volume of this box?  
  Answer: ___________________

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C. Everyone is talking about how tasty the cookies are at The Muffin Man Bakery. The bakery needs to bake three batches of cookies for some graduation parties. However, because some of the parties are bigger than others, you will have to make adjustments to the amount of ingredients you use. Complete the table below to figure out how much of each ingredient you will need.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Original Recipe</th>
<th>Convert to a Fraction (if possible)</th>
<th>Triple the Recipe (Multiply by 3)</th>
<th>Quadruple the Recipe (Multiply by 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flour</td>
<td>2 ½ cups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown Sugar</td>
<td>½ cup</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>¼ cup</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cinnamon</td>
<td>¾ teaspoon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baking Soda</td>
<td>¼ teaspoon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salt</td>
<td>½ teaspoon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolled Oats (Oatmeal)</td>
<td>3 ¾ cups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raisins</td>
<td>1 ¼ cup</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D. Use the information in the table above to answer the following questions:

- In the Original Recipe, how many total cups of flour, brown sugar, sugar, rolled oats and raisins did you use? Record your answer as a fraction and a mixed number.
  
  Fraction:   Mixed Number:   

- In the recipe that you tripled, how many total teaspoons of cinnamon, baking soda and salt did you use? Record your answer as a fraction and a mixed number.

  Fraction:   Mixed Number:
In the quadrupled recipe, how much flour, brown sugar and rolled oats did you use in all? Record your answer as a fraction and a mixed number.

Fraction: ___________________ Mixed Number: ___________________

How many more cups of rolled oats did you use in the quadrupled recipe than in the original recipe? Record your answer as a fraction and a mixed number.

Fraction: ___________________ Mixed Number: ___________________

In order to deliver the cookies to the graduation parties, you must pack them carefully inside of a box that is the shape of a rectangular prism. The box has the following measurements:

Length: 12 inches
Width: 6 inches
Height: 2 inches

What is the volume of this box? Answer: ___________________
Activity 3: Measuring Madness

A. Someone placed an urgent order for Birthday Cupcakes with icing and sprinkles. They will pick up the cupcakes later today. Unfortunately, you took home some of your measuring cups to wash. You will now have to use smaller measuring cups to make this batch of cupcakes. Use what you know about fractions to figure out how many of each of the smaller measuring cups you will need in order to measure each larger amount of the ingredients. Complete the column on the right to show how many of each size measuring cup you will need.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
<th>Measuring Cup Size</th>
<th>Number of Full Measuring Cups Needed for this Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flour</td>
<td>2 ½ cups</td>
<td>¼ cup</td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>2 ½ cups</td>
<td>¼ cup</td>
<td></td>
</tr>
<tr>
<td>Cocoa Powder</td>
<td>1 ¾ cups</td>
<td>¼ cup</td>
<td></td>
</tr>
<tr>
<td>Chocolate Chips</td>
<td>1 cup</td>
<td>¼ cup</td>
<td></td>
</tr>
<tr>
<td>Milk</td>
<td>3 ½ cups</td>
<td>½ cup</td>
<td></td>
</tr>
<tr>
<td>Butter</td>
<td>1 cup</td>
<td>½ cup</td>
<td></td>
</tr>
<tr>
<td>Powdered Sugar</td>
<td>4 ½ cup</td>
<td>½ cup</td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>½ cup</td>
<td>½ cup</td>
<td></td>
</tr>
<tr>
<td>Sprinkles</td>
<td>1 ⅓ cup</td>
<td>½ cup</td>
<td></td>
</tr>
</tbody>
</table>

Activity 4: Reflection

- How does everything that you know about fractions help you work in a bakery?
- How does everything that you know about fractions help you to successfully make adjustments to recipes?
- Besides baking, what are some other ways you could help out your family in the kitchen?
- What are some important safety precautions you MUST follow when baking in the kitchen?

Extension 1: Design a Menu

- When you visit a restaurant, a menu lists all the different types of food you can order to eat. Pretend you are opening a new restaurant. What will you name your restaurant? What kinds of food will you serve? Create your restaurant’s menu. Don’t forget to include:
  - The restaurant’s name
  - The food you will serve
  - The cost for each item
5th Grade Science Project: Shadows

<table>
<thead>
<tr>
<th>Estimated Time</th>
<th>Total time 70-80 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level Standard(s)</td>
<td>5-ESS1-2: Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</td>
</tr>
<tr>
<td>Caregiver Support Option</td>
<td>Optional support includes:</td>
</tr>
<tr>
<td></td>
<td>● Reviewing directions with the students</td>
</tr>
<tr>
<td></td>
<td>● Engaging in discussions with the students around the questions embedded in this project (siblings and other members of the household can be engaged in the dialogue as well)</td>
</tr>
<tr>
<td></td>
<td>● Serving as the audience for the final project presentation</td>
</tr>
<tr>
<td>Materials Needed</td>
<td>Paper, pencil/pen, packet</td>
</tr>
<tr>
<td>Question to Explore</td>
<td>Why do shadows change over the course of the day? How can sun shadows be used to tell time?</td>
</tr>
<tr>
<td>Student Directions</td>
<td>Each activity has directions for you to follow.</td>
</tr>
</tbody>
</table>

**Activity 1: How Do Shadows Change Over the Course of a Day? (15 min.)**

A. In the space below, describe how you think your shadow changes over the course of a day. Why do you think this happens? Use drawing and writing to explain your ideas.
B. Read the scenario below and answer the questions on a separate sheet of paper.  
[Adapted from *Wonder of Science: Daily and Seasonal Sky Changes*]

A student named Kiara decided she wanted to learn more about shadows. She asked to borrow a meter stick from her science teacher over the weekend and placed it in her yard. On Saturday, she went outside every hour from 11:30AM to 4:30PM and took a photo, standing in the same spot each time. Here are Kiara’s photos:

<table>
<thead>
<tr>
<th>11:30 am</th>
<th>12:30 pm</th>
<th>1:30 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
<tr>
<td>2:30 pm</td>
<td>3:30 pm</td>
<td>4:30 pm</td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td><img src="image5.png" alt="Image" /></td>
<td><img src="image6.png" alt="Image" /></td>
</tr>
</tbody>
</table>

Answer the following questions on a separate sheet of paper:

1. Observe the meter stick shadow. What pattern do you notice?

2. How does the length of the shadow change over the course of a day?

3. How does the direction of the shadow change over the course of a day?

4. Predict: What do you think the shadow of the meter stick would look like at 10:30AM and at 5:30PM? Draw pictures below for each of these times.
Activity 2: Graphing and Analyzing Shadow Data (25-30 min.)
[Adapted from *Wonder of Science: Daily and Seasonal Sky Changes*]

1. Observe the “Shadow Information” data table below. What patterns do you see? Use data from the table to support your answer.

![Compass Directions Diagram](image)

**Compass Directions**

<table>
<thead>
<tr>
<th>N = North</th>
<th>S = South</th>
<th>E = East</th>
<th>W = West</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Table 1: Shadow Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>6:00 am</td>
</tr>
<tr>
<td>7:00 am</td>
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<td>8:00 am</td>
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<tr>
<td>9:00 am</td>
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<td>10:00 am</td>
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<td>11:00 am</td>
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<tr>
<td>12 noon</td>
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<td>1:00 pm</td>
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<td>2:00 pm</td>
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<tr>
<td>3:00 pm</td>
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<td>4:00 pm</td>
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<td>5:00 pm</td>
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<td>6:00 pm</td>
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<tr>
<td>7:00 pm</td>
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<tr>
<td>8:00 pm</td>
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</tbody>
</table>
2. Represent the shadow data from Table 1 (on the previous page) in the graph below. IMPORTANT: Label the time and any important additional information on the graph.

Graph: Shadow Information

3. What patterns do you see in the graph above? Be sure to use data from the graph to support your answer.
4. Observe the Hours of Sunlight data below. What patterns do you see? Be sure to use data from the graph to support your answer.

<table>
<thead>
<tr>
<th>Latitude</th>
<th>Daylight Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>90° North</td>
<td>0 hours 0 minutes</td>
</tr>
<tr>
<td>60° North</td>
<td>8 hours 24 minutes</td>
</tr>
<tr>
<td>30° North</td>
<td>10 hours 52 minutes</td>
</tr>
<tr>
<td>Equator</td>
<td>12 hours 7 minutes</td>
</tr>
<tr>
<td>30° South</td>
<td>13 hours 24 minutes</td>
</tr>
<tr>
<td>60° South</td>
<td>16 hours 18 minutes</td>
</tr>
<tr>
<td>90° South</td>
<td>24 hours 0 minutes</td>
</tr>
</tbody>
</table>

Activity 3: Reading (15-20 min.)
(Adapted from: Mystery Science Spaceship Earth Unit, Mystery 1: How fast does the Earth spin? Access the full unit here: https://mysteryscience.com/astronomy/sun-moon-stars-planets) [spanish]

I've got a question for you: have you ever been on a train? Well, I want you to imagine that you're boarding one. You find a seat, maybe start taking a little nap. And then, at some point, you wake up and look out the window and see this other train on the track next to you just zipping past. It's going 70, maybe 80 miles an hour. You think, wow, that train is moving really fast. But then you realize — wait a second, maybe that train is standing still and your train is the one that's actually moving. Whoa. Now, it seems like it should be easy to know when one thing is moving and the other thing is standing still. But, as this train example shows, there are times when it's not easy. Here's a similar example — this time, something that happens every day. Every morning, the Sun rises in the east and follows this arc across the sky. Then, in the evening, it sets in the west. It's the Sun's daily pattern.

Note: W = west, E = east

Now, is the Sun actually moving as it does this, or are you moving and the Sun is standing still? I know, I know — you might think you already know the answer to this question. It's the Earth that moves, right? You've probably read in a textbook or heard your teacher say the Earth spins, or rotates.
around its axis once each day, making the Sun appear to move across the sky. The Sun isn't actually moving. But don't just assume something is true just because someone told you so. Really think about this for yourself. I mean, think about what a strange idea that really is. After all, if the Earth is moving, wouldn't we be able to feel that? For most of history we've assumed just the opposite: that the reason it looks like the Sun is moving across the sky each day is because maybe the Sun actually is moving. That's way easier to assume. It looks like it's moving.

1. How do we know that the Earth is moving and not the sun? What do you think?

2. Observe the images in the reading.
   a. How would you describe the sun’s position in the sky in the 3 images above?
   b. Why does the sun appear to change position in the sky over the course of a day?
   c. How does the rotation of the Earth affect the length of the tree’s shadow over a day?

**Activity 4: Reflect and Apply Your Learning (15 min.)**
- How can sun shadows be used to tell time? Write an explanation. Draw pictures if that helps you explain your ideas. Be sure to include the following:
  - Use what you learned from Activities 1, 2, and 3 to answer the question.
  - Provide evidence (from Activity 1, 2, and/or 3)
  - Use science ideas from the reading to help you connect your evidence to your claim.
<table>
<thead>
<tr>
<th><strong>Grade 3-5 Social Science Project: Here and Now Snapshot</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimated Time</strong></td>
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<tr>
<td><strong>Grade Level Standard(s)</strong></td>
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<tr>
<td>SS.IS.3.3-5.</td>
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<td>SS.IS.4.3-5.</td>
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<td>SS.IS.6.3-5.</td>
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<tr>
<td><strong>Caregiver Support Option</strong></td>
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<tr>
<td>Before giving the activities to students, caregivers might:</td>
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<td>In this particular lesson, it’s important to note that:</td>
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<tr>
<td><strong>Materials Needed</strong></td>
</tr>
<tr>
<td><strong>Question to Explore</strong></td>
</tr>
<tr>
<td><strong>Student Directions</strong></td>
</tr>
</tbody>
</table>
Day 1 (Activity 1): Examining Historical Setting (15-20 min)

This week we’re thinking about the question: "How can I capture where I am in time and place?"

Your challenge this week is to create a “Here and Now Snapshot” to represent your historical setting in words and images.

Today you will:
- Look at images for details about their historical setting
- Identify your own setting

You will need:
- Paper or notebook
- Writing tool
- “My Setting” handout (optional)

Let’s Get Started!

A. THINK

Have you ever thought about what someone 20, 30, or even 100 years from now would think about young people?

Guess what… someday in the future, someone might look at the things you’ve created and wonder about you.

B. EXPLORE

Let’s think like historians by looking at historical setting. Historical setting describes where and when something took place.

What can we learn about life in the past by looking at the historical setting of each picture below?

What can we guess about this picture’s historical setting (where and when the picture took place)? Look for details that provide evidence about where and when the photo was taken.
- Who: Who is in this picture? What do you notice about what they are wearing? What do you think their relationship to one another is?
- What: What objects do you see? What activities do you see?
- Where: What do you see in the background? Where do you think they’re located?
- When: What time of day do you think this is? What time of year could it be? Is this in the past or present?
What can we guess about this picture’s historical setting (where and when the picture took place)? Look for details that provide evidence about where and when the photo was taken.

- **Who:** Who is in this picture? What do you notice about what they are wearing? What do you think their relationship to one another is?
- **What:** What objects do you see? What activities do you see?
- **Where:** What do you see in the background? Where do you think they’re located?
- **When:** What time of day do you think this is? What time of year could it be? Is this in the past or present?

C. **DO**

Your challenge this week: Create a “Here and Now Snapshot” to represent your historical setting at this time.

Today, you will complete the first step of the challenge!

Record the who, what, where, and when of your setting on paper (or use the “My Setting” handout if you like).

You don’t have to write about this exact moment – you can think back to a moment from your day that really captures your life right now.
DAY 1
My Setting

**WHO** is with you?

Who is not with you?

**WHAT** is going on?

What is not going on?

**WHERE** are you?

Where are you not?

**WHEN** is it?
Day 2 (Activity 2): Representing Your Setting (15-20 min)

This week we’re thinking about the question: "How can I capture where I am in time and place?"

Your challenge this week is to create a “Here and Now Snapshot” to represent your historical setting in words and images.

Today you will:
- Look at an historical image for details about its setting
- Create an image that represents your setting

You will need:
- Paper or notebook
- Writing tool
- Drawing materials (optional)
- “Drafting Template” handout (optional)

Let’s Get Started!

A. THINK

You’ve learned about setting by analyzing photographs. How would it be similar or different if you were analyzing a painting or drawing?

B. EXPLORE

Let’s think like historians!

This is a sketch by the artist Vincent van Gogh. What can we learn about the setting?
- Who: Who is in the picture? What are they wearing? How are they connected to each other?
- What: What objects do you see? What activities do you see?
- Where: What’s in the background? Is this inside or outside?
- When: What time of day do you think it is? What season could it be? Do you think this is today or long ago?

C. DO

Keep in mind your challenge this week: Create a “Here and Now Snapshot” to represent your historical setting at this time.

Today, you will complete the next step of the challenge, which is to make a first draft of your “Here and Now Snapshot”!
Use pictures and words to show your setting on paper (or use the “Drafting Template” handout if you...
Your goal: Show your historical setting in words and pictures.
- What do you want the viewer to think?
- What do you want the viewer to feel?
- What do you want the viewer to know or wonder about your moment in time and place?

DAY 2
Drafting Template

<table>
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<th>Who:</th>
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<th>Where:</th>
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Day 3 (Activity 3): Evaluating the Work (15-20 min)

This week we're thinking about the question: "How can I capture where I am in time and place?"

Your challenge this week is to create a “Here and Now Snapshot” to represent your historical setting in words and images.

Today you will:
- Reflect on your progress
- Make a plan to improve your work

You will need:
- Your work from previous activities
- Paper or notebook
- Writing tool
Let’s Get Started!

A. THINK
You’ve already created the first draft of a “Here and Now Snapshot” that shows your setting using words and pictures!

Pause to reflect on your work. When someone looks at your work, will they understand your setting?

B. EXPLORE

Look at this student’s “Here and Now Snapshot.” How much does this image tell you about the historical setting?

- What is your reaction to this?
- What do you think the maker is trying to communicate?
- Which details show the Who, What, Where, and When?

Now imagine we have the chance to give another student feedback on their work to make it stronger and clearer.

What advice would you give the artist to make this work even stronger?

- The artist could add…
- The artist could try…
- The artist could adjust…

C. DO

Keep in mind your challenge this week: Create a “Here and Now Snapshot” to represent your setting at this time.
Today, you will explore your own first draft to check if you are meeting your goal to show your setting in words and pictures.

1. Pencils down! This is a thinking exercise!
2. Look at your work and ask:
   - Which details show the Who, What, Where, and When?
   - What will the viewer think or feel when they see this work?
3. Wait, still don’t touch your work! First, make a work plan! Complete one of these sentences:
   - I will add...
   - I will try...
   - I will adjust...

### Day 4 (Activity 4): Finalizing the Work (15-20 min)

<table>
<thead>
<tr>
<th>This week we’re thinking about the question: &quot;How can I capture where I am in time and place?&quot;</th>
<th>Your challenge this week is to create a “Here and Now Snapshot” to represent your historical setting in words and images.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today you will: ● Finalize your “Here and Now Snapshot”</td>
<td>You will need: ● Your work from previous activities ● Drawing and coloring materials (optional)</td>
</tr>
</tbody>
</table>

Let’s Get Started!

**A. THINK**

Remember your work plan? That’s when you said:
- I will add...
- I will try...
- I will adjust...

Decide or discuss: **What will you do next to finalize your work?**

**B. EXPLORE**

Check out some “Here and Now Snapshots” by other students.
- What changes did this artist make to their work?
- How do these changes help you understand more about their historical setting?
C. DO

Today, you will work to finalize your “Here and Now Snapshot” to best represent your historical setting.

1. Get out your first draft and any other materials from previous activities.
2. Think about your work plan.
3. Decide: Do you need a fresh piece of paper to start over? Or will you just edit your first draft to make your final draft?
4. Get to work making your final draft!

Day 5 (Activity 5): Reflecting and Sharing (15-20 min)

This week we’re thinking about the question: "How can I capture where I am in time and place?"

Your challenge this week is to create a "Here and Now Snapshot" to represent your historical setting in words and images.
Today you will:
- Think about what your “Here and Now Snapshot” tells about you and your setting
- Find a way to share your final work

You will need:
- Your finished “Here and Now Snapshot”
- “Sharing” handout (optional)

Let’s Get Started!

A. THINK

Someday, a long time from now, someone might look at the things you’ve created to wonder about you. Today, someone in another household, another city, or another country might be wondering about you right now!

B. EXPLORE

Look at your finished “Here and Now Snapshot.”
Think about or discuss:
- Looking at my “Here and Now Snapshot,” what will viewers think, feel, or wonder about me or my historical setting?
- What evidence did I include to make the viewer think or feel that?

C. DO

Now that you’ve completed your “Here and Now Snapshot” it’s time to share your work with others!

Here are some ideas for connecting with others:
- Share with a family member and...
  - Help them to create their own
  - Ask them what your work makes them think, feel, or wonder (or use the “Sharing” handout to get a written response)
- Share with your classroom community (if this is an option) and discuss similarities and differences in what you’ve decided to include
- Ask an adult to help you share your work online with the hashtag #inquiredtogether
- Hang your “Here and Now Snapshot” in the window
- Keep your “Here and Now Snapshot” somewhere safe as a historical record that you and others can look back on later
DAY 5
Sharing

Please take a look at my work and fill this out. Thank you!

This work made me… (circle one)

think...  
feel...  
wonder...

_____________________________________________
_____________________________________________
_____________________________________________
_____________________________________________
_____________________________________________

Cross Content Connection:
By studying and analyzing historical images, and by creating your own historical setting snapshot to communicate with friends near and far, now and in the future, you are using many social science skills, but also so much more! There are so many connections to language arts, math, and science that you can continue to explore. Here a few ways to extend your learning and make connections to other subjects.

Math: Ask an adult to share memorable “snapshots” from different events in their lifetime. Put the events in chronological order to create a timeline. Extend the timeline by including snapshots from different times in your life.

If you have access to the internet, search for images, artwork or photographs, of different mathematicians from history. Study and analyze the images. What do you notice about the historical setting? Some mathematicians to consider researching: Isaac Newton, Alan Turing, Katherine Johnson, Sophie Germain, and Albert Einstein.

Science: Consider the historical setting for things from the natural world- plants, animals, and landforms. Go for a walk with your family outside or look outside your window. What do you notice from nature? Create a Here and Now Snapshot for something from nature. Who or what is part of its setting? Where is the setting? When is it? Consider how humans impact its setting throughout history and right now.