At Home Learning Resources

Grade 4 - Week 8

<table>
<thead>
<tr>
<th>Content</th>
<th>Time Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Literacy Instruction</strong></td>
<td>10-20 minutes daily</td>
</tr>
<tr>
<td>(Watch a mini lesson, and/or complete online learning)</td>
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<tr>
<td><strong>Reading</strong></td>
<td>At least 20 minutes daily</td>
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<tr>
<td>(Read books, watch books read aloud, listen to a book)</td>
<td>(Could be about science, social studies, etc)</td>
</tr>
<tr>
<td><strong>Writing or Word Work or Phonics/Vocabulary</strong></td>
<td>20-30 minutes daily</td>
</tr>
<tr>
<td><strong>Math</strong></td>
<td>30 minutes daily</td>
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<tr>
<td><strong>Science</strong></td>
<td>45 minutes per week</td>
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<tr>
<td><strong>Social Studies</strong></td>
<td>30 minutes per week</td>
</tr>
<tr>
<td><strong>Arts, Physical Education, or Social Emotional Learning</strong></td>
<td>30 minutes daily</td>
</tr>
</tbody>
</table>

These are some time recommendations for each subject. We know everyone’s schedule is different, so do what you can. These times do not need to be in a row/in order, but can be spread throughout the day.
Grade 4 ELA Week 8

Your child can complete any of the activities in weeks 1-7. These can be found on the Lowell Public Schools website: https://www.lowell.k12.ma.us/Page/3800

This week begins a focus on informational or nonfiction reading and writing. Your child should be reading, writing, talking and writing about reading, and working on exploring synonyms this week.

**Reading:** Students need to read each day. They can read the articles included in this packet and/or read any of the nonfiction/informational books that they have at home, or can access online at Epic Books, Tumblebooks, Raz Kids, or other online books. All resources are on the LPS website. There is something for everyone.

**Talking and Writing about Reading:** As students are reading, they can think about their reading, then talk about their reading with a family member and/or write about their reading using the prompts/questions included.

**Writing:** Students will continue working on informational books for the next weeks. The resources in this packet will be the same for next week for writing as well. These resources are charts with examples to help your child write. They are available online in an interactive form with video tutorials here: Grade 4 Nonfiction Writing Choice Board. Click on the images/starbursts to watch the video tutorials. This writing should last throughout the weeks. Students will be planning their writing, then writing, then making it even better by revising, writing some more, and at the end, fixing it up by editing. Your child might write 1 informational book and work to refine it throughout, or might write multiple books, getting better each time.

**Word Work:** Students can work on learning synonyms and using the in sentences. Play go fish and see if students can match the words that mean about the same thing.
Nonfiction Questions You Might Ask Your Children During and After Reading Aloud

Grade 4 Students

1. What are the multiple main ideas in the text and find details to support them?

2. Look and think about the ideas the author gives you in the text. How are those ideas related? Make an inference?

3. How are the ideas in your book connected to each other?
4. What is the author’s perspective...how does the author feel about his topic?

5. What strategies can you use to help you figure out tricky vocabulary words.
Connections

Writing
Research to learn more about one of Thomas Edison’s inventions. Create a brochure about the invention to share with your classmates.

Social Studies
Make a timeline of Thomas Edison’s life. Include at least five of his inventions on your timeline.
A Curious Boy

Thomas Edison loved to question things. He loved to learn how things worked. He also loved to make things work better. Many people think of him as one of the greatest inventors of all time.
Young Al

Thomas Alva Edison was born on February 11, 1847. Al, as he was called, did not do well in school. He wanted to question and explore. At that time, school was mostly about remembering facts. Al’s mom took him out of school and taught him at home. She taught him to love to read.

Al sold food and newspapers on trains when he was twelve years old. He used the money he earned to buy books and materials for experiments. He set up a lab in a train car. Also around this time, Al lost most of his hearing.

When he was fifteen, Al saved a boy’s life. The boy was about to be run over by a boxcar when Al grabbed him. The child’s father offered to teach Al how to be a telegraph operator.

As Al grew older, he traveled around as a telegraph operator. He continued to be interested in science.
Edison the Inventor

Edison wanted to invent things full-time. He invented ways to make the telegraph better. He earned his first **patent** for an electric vote counter, in 1869. The invention did not do well. Edison continued to invent. He said he would not give up, no matter what happened.

Do You Know?
The telegraph let people communicate before the invention of the telephone. It used a code of dots and dashes, or short and long beeps, to form letters.

A New Lab

Edison began building and selling some of his inventions. In 1876, he built a lab in Menlo Park, New Jersey. It was the first **research** lab in the world built to make money. Many people called it the “invention factory.” Edison and his workers were there many hours each day.
Edison put his ideas in notebooks. He gave the notebooks to his workers, who then made the inventions. Edison filled 3,500 notebooks with ideas. Not all of those ideas worked. Edison continued to work. He said he needed to find out all the ways something didn’t work to find out the way it did.

The telephone was invented in 1876, but it didn’t work well. People had to yell into the phone to be heard. In 1877, Edison and his team invented a way to make the telephone work better.

Edison’s Family
Edison married Mary Stilwell in 1871. They had three children—Marion, Thomas Jr., and William. Mary died in 1884. Edison married his second wife, Mina Miller, in 1886. They had three children—Madeleine, Charles, and Theodore.
Edison also invented a machine that could record words and then play them back. The first thing Edison recorded was “Mary Had a Little Lamb.” Some people didn’t believe the machine worked. They thought someone was talking in another room! The phonograph made Edison famous.

A Special Project

For years, people had tried to make a safe light bulb that most people could buy. Many inventors had tried and failed. First, Edison and his team had to find the right **filament**—the part of a light bulb that glows. They tried thousands of materials. They finally found one that worked. People were amazed by Edison’s electric lights.
Edison then had to make a system that could light a building and even a city. In 1881, Edison moved to New York City. He helped start the first electric power plant. In time, many places began to use electric lights.

The War of the Currents

In the 1880s and 1890s, Edison competed with another electric company. Edison’s method of delivering electricity was called direct current, or DC. The other company said the method called alternating current, or AC, was better. AC was invented by Nikola Tesla. AC would later win the competition.

Other Exciting Ideas

In 1887, Edison moved to a new lab in New Jersey. Around that time, he saw a machine that quickly played many images one after another. The things in the images looked as if they were moving!

Edison had his team work on two machines. One machine would record the images, and the other would show them. Edison and his team invented a movie camera. They also invented a machine to show the images. Edison tried to put sound with the images, but it did not work.
A Remarkable Man

Edison continued to invent. Some of his other inventions included machines to mine materials, better batteries, and new uses for cement.

During his life, Edison had 1,093 patents, which was a record at the time. He worked until he was more than eighty years old.

Thomas Edison died on October 18, 1931. President Herbert Hoover asked people to turn out their lights for a short time. He asked them to think about the great changes Thomas Edison had made in their lives.

Glossary

experiments (n.) scientific tests (p. 6)

filament (n.) a thread or threadlike object that conducts electricity, such as that found in a light bulb (p. 12)

inventors (n.) people who create, design, or build things that did not exist before (p. 4)

operator (n.) a person who controls a machine or other equipment (p. 6)

patent (n.) a document giving someone the right to make money from an invention (p. 7)

research (n.) a detailed study of a subject, especially to discover new information or to find facts (p. 8)
Edison’s Ideas

What if you went to the movies
And nothing was there on the screen?
It wouldn’t be much of a movie
Without pictures there to be seen!

Now imagine your favorite music,
And think about what you would do
If the only way that you could hear it
Was to have the whole band come to you!

Think of your house in the darkness;
Not a light switch to flip on a wall.
On second thought, no—
Think of none of these things—
Because Edison thought of them all!
Thomas Edison  
(Born: 1847; Died: 1931)

As a boy, Tom was always doing experiments. Once, he sat on a nest of eggs to see if he could hatch them! (He couldn’t, but he could break them.) As he grew up, Thomas kept doing experiments. One of his first inventions was a machine to count votes. But no one wanted it. Thomas didn’t give up, though.

In 1877, Thomas invented the phonograph, or record player. It was the first time anyone had recorded a voice! It led to CD players, and then MP3s. In 1879, Thomas invented an electric light bulb that stayed on for thirteen hours. It was a lot safer than candles, gas, or oil. Now, we couldn’t live without electric lights! In 1891, Thomas invented an early movie camera. It led to the kind of movies we go to see today. In his life, Thomas Edison created more than a thousand inventions. He was always inventing. He never gave up. Guess what? He changed the world!
Think of a topic... something that you know a lot about.

- Find someone that you can talk with, and try teaching them about your topic.
- Pay close attention, and ask yourself... Do I have enough to say about my topic?

Remember! Nonfiction writers teach!

What will you teach?

Pets
1.
2.
3.

Video Games
1.
2.
3.

Sports
1.
2.
3.

Baking
1.
2.
3.
In the book About Trees, you can see that the author chose to organize her book by teaching about the parts of the tree.

Some Authors hook their reader by telling a short story related to their topic. Some might choose an interesting quotation, and some might choose to say something interesting by describing their topic.

Notice the way in which the author uses a description to get her readers excited about her topic!

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<td>2. Ball Sports</td>
</tr>
<tr>
<td>3. Aquatic Sports</td>
</tr>
<tr>
<td>4. Mountain Sports</td>
</tr>
<tr>
<td>5. Extreme Sports</td>
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Write a powerful introduction

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Try to say a few sentences about each part of your topic.

Let’s take a look at our mentor text. About Trees.

Let’s examine the first part of book where she talks about the leaves of a tree.

Use fancy words and explain what they mean.

Notice how the author uses fancy words related to her topic, and then explains what they mean to make it clear for the reader.

- ASTERN: Toward the back
- BEAM ENDS: A canoe tipped on its side
- AIR LOCK: The pressure of air that holds water inside an overturned canoe if you attempt to lift it straight up.
You've learned that nonfiction writers include sketches to help their readers understand what things look like.

Here our mentor author chose to include a picture of the tubes found in a tree that helps to carry water from the roots to the leaves.

I'm sure glad she did because now when I see a tree, I can look for these tubes, and know exactly what they are.

Now, you try to think of some sketches that you can include in your book to help your reader know what things look like.

Trees help the earth by keeping the air clean!

Trees are a home to many animals!

Their seeds provide food for both humans and animals!

You can choose to end your book by leaving your reader with a strong feeling about your topic.

Perhaps finish off by encouraging your reader to some thinking about your topic.

You might even leave your reader with a surprising tip or fact...a WOW a statement!

Let's take a look at our text to see what our mentor author did.
Students know that words that mean about the same thing are called synonyms.

Use the enclosed materials to play Go Fish with your child. When you get a pair of synonyms, try to use them in the same sentence. If both words don’t make sense, think of another sentence for the second word. This will help your child increase the ability to determine the appropriate words to use in writing.

Hope you like and enjoy the game!
<table>
<thead>
<tr>
<th>huge</th>
<th>earth</th>
<th>add</th>
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</thead>
<tbody>
<tr>
<td>arrive</td>
<td>anger</td>
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<td>brave</td>
<td>mistake</td>
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<td>appear</td>
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<td>change</td>
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<td>postpone</td>
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<tr>
<td>start</td>
<td>mend</td>
<td>locate</td>
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</tbody>
</table>
Adding and Subtracting Large Numbers

A.  
\[
\begin{array}{c}
42,356 \\
+ 23,916 \\
\end{array}
\]

B.  
\[
\begin{array}{c}
30,562 \\
+ 7,588 \\
\end{array}
\]

C.  
\[
\begin{array}{c}
6,757 \\
+ 2,944 \\
\end{array}
\]

D.  
\[
\begin{array}{c}
143,864 \\
+ 688,143 \\
\end{array}
\]

Circle any problems below that **DO NOT** correctly show the standard algorithm for subtraction. If there are errors, explain.

E.  
\[
\begin{array}{c}
711 \\
\underline{38,2154} \\
- 15373 \\
\hline
22,881 \\
\end{array}
\]

F.  
\[
\begin{array}{c}
8 \\
\underline{502910} \\
- 32382 \\
\hline
22108 \\
\end{array}
\]

G.  
\[
\begin{array}{c}
2 \\
\underline{3169} \\
- 951 \\
\hline
2218 \\
\end{array}
\]
Round 15,865 to the nearest ten thousand.

Round 45,469 to the nearest ten thousand.

Round 34,515 to the nearest ten thousand.

Round 657,206 to the nearest hundred thousand.

Round 245,999 to the nearest hundred thousand.

Round 348,000 to the nearest hundred thousand.
### Solve each problem.

1) If $9 \times 8 = 72$, then $90 \times 8 = 

2) If $4 \times 6 = 24$, then $40 \times 6 = 

3) If $6 \times 9 = 54$, then $60 \times 9 = 

4) If $1 \times 7 = 7$, then $10 \times 7 = 

5) If $2 \times 1 = 2$, then $20 \times 1 = 

6) If $8 \times 9 = 72$, then $80 \times 9 = 

7) If $5 \times 7 = 35$, then $50 \times 7 = 

8) If $10 \times 10 = 100$, then $100 \times 10 = 

9) If $7 \times 3 = 21$, then $70 \times 3 = 

10) If $4 \times 10 = 40$, then $40 \times 10 = 

11) If $3 \times 6 = 18$, then $3 \times 60 = 

12) If $9 \times 2 = 18$, then $9 \times 20 = 

13) If $7 \times 5 = 35$, then $7 \times 50 = 

14) If $3 \times 8 = 24$, then $3 \times 80 = 

15) If $3 \times 3 = 9$, then $3 \times 30 = 

16) If $2 \times 10 = 20$, then $2 \times 100 = 

17) If $9 \times 9 = 81$, then $9 \times 90 = 

18) If $8 \times 7 = 56$, then $8 \times 70 = 

19) If $6 \times 6 = 36$, then $6 \times 60 = 

20) If $8 \times 1 = 8$, then $8 \times 10 = 

### Answers

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3. 

4. 

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### Lesson 8 Sprint

**A STORY OF UNITS**

#### Find the Midpoint

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Number Correct: _____

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Lesson 1: Interpret a multiplication equation as a comparison.

A

Multiply and Divide by 10

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<td>44.</td>
<td>$140 \div 10 = $</td>
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Number Correct: ________
An elephant at the zoo weighs 14,648 lbs. A shark at the aquarium weighs 12,632 less pounds than the elephant. How much does the shark weigh?

Estimate:

Solve. Explain your answer with pictures or words:
Directions: Use the whole numbers 1 through 6, at most one time each, to fill in the boxes and make the largest number that rounds to 50,000.

Directions: Use the whole numbers 1 through 6, at most one time each, to fill in the boxes and make the smallest number that rounds to 50,000.
Check out the website below for inspiration for creating your own chain reaction machine like Rube Goldberg. Send a video of the results to your teacher!

**RUBE GOLDBERG MACHINE**


**THINGS THAT ROLL**
- Marbles
- Balls: Tennis, Baseball, Bowling, etc.
- Toy Cars
- Dominoes
- Skateboard
- Roller Skate

**RECYCLABLES**
- Cardboard
- Cereal Boxes
- Cardboard Rolls
- Plastic Water Bottles
- Cans
- Aluminum Foil

**THINGS THAT MOVE**
- Mousetrap
- Dominoes
- Toaster
- Fan

**EVERYDAY MATERIALS**
- Chopsticks
- Popsicle Sticks
- Ruler
- Wooden Blocks
- Bowl
- String
- Tape
- Sand
- Pins
- Hammer
- Balloons
- Water
- Fan
- Vinegar and Baking Soda

**RAMPS**
- Toy Train Tracks
- Marble Runs
- Books
- Trays
- PVC pipe
- Plastic tubing
- Gutters
What are Erosion and Weathering?

Weathering is the breaking apart of rocks into smaller pieces. Water or wind can cause physical weathering by cracking rocks or grinding them down. Chemical weathering happens when minerals in rocks are changed by chemicals in water and air. Some examples are when iron in rocks rusts, or when acid in rain causes holes in rocks like limestone and marble.

Erosion is the taking away of rock that has been weathered. After rocks have been weathered into small pieces, those small pieces can be carried away by water or wind.

To learn more, click on the link below to learn about the effects of weathering (wind, water, ice) on landforms. The host (Bill Nye) uses the term “erosion” as a general term, including weathering. While you watch, write down examples of rock being broken apart (weathering) and rock particles being taken away (erosion).

Bill Nye the Science Guy: Erosion
https://www.youtube.com/watch?v=HkralMIDmSA

<table>
<thead>
<tr>
<th>Examples of Weathering</th>
<th>Examples of Erosion</th>
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C. The Northwest Ordinance. Read each excerpt from the Northwest Ordinance and answer the questions.

1. If Congress appointed the governor, who was really in control of the territory’s government?

2. Underline the length of the governor’s term.

3. Underline the number of residents who had to live in the district before citizens could elect their own general assembly.

4. The district has 5,103 women and 4,998 men. Time to elect representatives?

Yes  No

5. Who do you think this excerpt is talking about?
   a. Free male inhabitants
   b. Runaway slaves
   c. People accused of a crime
   d. People who work a lot

6. Fill in the blanks to paraphrase what this is saying:
   _______________ who ______________ into this territory will be ______________ to their owners.

7. Underline the number of people required for a state to be admitted.

8. Did women count toward this number?

Yes  No

Circle the evidence for your answer.

9. Would a runaway slave count toward this number?

Yes  No

10. Would the people still have the government Congress appointed for them?

Yes  No

Box the evidence for your answer.

Art. 1. No person, demeaning himself in a peaceable and orderly manner, shall ever be [bothered] on account of his mode of worship or religious sentiments, in the said territory.

Art. 2. The inhabitants of the said territory shall always be entitled to the benefits of the writ of habeas corpus, and of the trial by jury; of a proportionate representation of the people in the legislature; and of judicial proceedings according to the course of the common law. All persons shall be bailable, unless for capital offenses. All fines shall be moderate; and no cruel or unusual punishments shall be inflicted.

No man shall be deprived of his liberty or property, but by the judgment of his peers or the law of the land...

11. There are nine rights listed in this excerpt. Find and circle them.
We’re Free... Let’s Grow!  Name:

D. Label the Land. Five states formed in the Northwest Territory. Label them on the map using the state names in the blue box. The names already on the map are the Native tribes that lived in the territory at the time of the Northwest Ordinance.

1. How many Native American tribes were affected by the growth of the U.S. into the Northwest Territory?

2. Perhaps you’ve heard the names Illinois, Delaware, or Miami before. Where else have you heard these tribal names?

3. What can you infer about the connections between these tribes and the places that have been named after them?

E. Perspectives. U.S. Westward expansion affected the lives, lifestyle, and livelihood of many Native American tribes. What would have been each side’s perspective on the Northwest Ordinance of 1787?

<table>
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<th>Native Tribes</th>
<th>American Government &amp; Settlers</th>
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F. Northwest Ordinance. Read the section of the Northwest Ordinance of 1787 below and answer the questions.

The utmost good faith shall always be observed towards the Indians; their lands and property shall never be taken from them without their consent; and... they shall never be invaded or disturbed, unless in just and lawful wars authorized by Congress.

1. In your own words, what does this section from the Northwest Ordinance mean?

2. Based on what you learned in the reading, did America live up to its words? Why or why not?
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<th>Thursday</th>
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<tbody>
<tr>
<td>Choose a book page, magazine, or newspaper article. Tally how many times you find the words that start with letters: S A T.</td>
<td>Go on a shape hunt. Find five things in your house for each shape: Rhombus Trapezoid Equilateral.</td>
<td>How many words can you make from this word? educational.</td>
<td>List 5 things in your home that are solids. List 5 things in your home that are liquids. List 5 things in your home that are gases.</td>
<td>Imagine two of your friends went to your school when no one was there. Write or draw their adventure.</td>
</tr>
<tr>
<td>Monday</td>
<td>Tuesday</td>
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<tr>
<td>Hide something in your home. Make a treasure map and let a family member try to find it.</td>
<td>Find four things in your home that are magnetic. Find four things in your home that are mixtures. Find four things in your home that are transparent.</td>
<td>Imagine you ran a zoo. Write an advertisement telling people why they should come to your zoo.</td>
<td>Line up all the soap, shampoo, and lotion in your house from smallest to tallest.</td>
<td>Put a little bit of soap into a cup. Fill the cup with water. Count how many minutes it takes for the bubbles to disappear.</td>
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