



Compton USD Learning Packet #5

Fourth Grade

Name _____

4th Grade Learning Packet

TABLE OF CONTENTS

Week 6

Day	Lesson	Date Completed
1	Vowel Teams/Greek and Latin Roots, Vocabulary Strategy: Greek Roots Vocabulary	
	Lesson 7.4 Subtract Fractions Using Models	
	Science: Read "How Do Plants Grow" and answer the questions that follow.	
2	Read "Stephanie Kwolek: Inventor" and answer the questions that follow.	
	Lesson 7.5 Add and Subtract Fractions	
	Science: Read "The Basic Structure of Plants" and answer the questions that follow.	
3	Grammar: Adjectives That Compare, Irregular Adjectives for Comparison Grammar: Punctuation in Letters, Proofread	
	Lesson 7.6 Rename Fractions and Mixed Numbers	
	Science: Read "How Do Plants Make Their Own Food" and answer the questions that follow.	
4	Write an Opinion Piece Based on the Sources - Topic: Dodgers Read the assignment, then read Sources #1 and #2. Highlight important information.	
	Lesson 7.7 Add and Subtract Mixed Numbers	
	Science: Read "How Plants Reproduce" and answer the questions that follow.	
5	Write an Opinion Piece Based on the Sources - Topic: Dodgers Read Source #3 and highlight important information. Reread the prompt and write a multi-paragraph opinion piece.	
	Lesson 7.8 Subtraction with Renaming	
	Science: Read "Strange Plants" and answer the questions that follow.	

Recommended Online Usage

<input type="checkbox"/> I-Ready Reading - 45 minutes per week	<input type="checkbox"/> I-Ready Math - 45 minutes per week
<input type="checkbox"/> Imagine Learning for English Learners - 90 minutes per week	<input type="checkbox"/> Dreambox - 90 minutes per week

Name _____

When two vowels appear together in a word, they work as a vowel team to form one vowel sound.

boatplaintree

A syllable that includes a vowel team is called a vowel-team syllable.

lead as in *mislead***maid** as in *maiden*

A. Read each word in bold. Then circle the vowel team syllable and write the vowel team on the line. The first one has been done for you.

1. **between** be tween ee2. **trainer** train er _____3. **repeat** re peat _____4. **staircase** stair case _____

Many English words include Greek and Latin roots. Knowing the meanings of these roots can help you understand the meaning of unfamiliar words.

- The Greek root *scop* means "see." • The Latin root *ped* means "foot."
- The Greek root *bio* means "life." • The Latin root *aud* means "listen."
- The Greek root *photo* means "light."

B. Read each word. Underline the Greek or Latin root. Then write the meaning of the root on the line. The first one has been done for you.

1. pedal foot 4. telescope _____

2. biography _____ 5. pedestrian _____

3. auditorium _____ 6. photographer _____

Name _____

Knowing **Greek roots** can help you figure out the meanings of unfamiliar words. Look at the example in the sentence below.

The four seasons are part of a *cycle*.

The Greek root *cycl-* means "circular." The word *cycle* means "a series of events that happen over and over again in the same order."

Below are some other familiar Greek roots and their meanings.

tele = far

auto = self

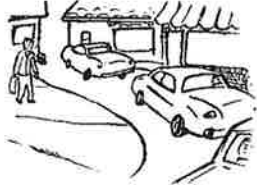




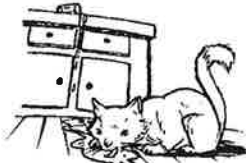
techn = art, skill

Read the sentences below. The word in bold in each sentence has a Greek root. Use the Greek roots and their meanings from the box above to figure out the best definition of the word in bold. Then circle the letter of the correct answer.

1. He even helped make the largest **telescope** in the world!
 - a. an instrument used to see something that is close
 - b. an instrument used to see something that is far away
2. An **automatic** computer voice says the word.
 - a. done with a person's control
 - b. works by itself
3. The armed forces use a communication **technique** that involves silent hand movements out in the field.
 - a. a skillful way of bringing about a result
 - b. an easy way to get a result

Name _____

Use the word chart to study this week's vocabulary words.
Write a sentence using each word in your writer's notebook.

Word	Context Sentence	Illustration
<p>nowadays</p>	<p>People used to walk more, but <u>nowadays</u> they tend to drive.</p>	
<p>genuine</p>	<p>My smile was <u>genuine</u> because I really liked the gift.</p>	
<p>politician</p>	<p>She worked her whole life to become a <u>politician</u>.</p>	
<p>dizzy</p>	<p>He spun around in circles until he was <u>dizzy</u>.</p>	
<p>hilarious</p>	<p>My little brother thinks my silly faces are <u>hilarious</u>.</p>	
<p>mischief</p>	<p>My cat loves to get into <u>mischief</u>.</p>	

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Name _____

mischief	procedure	dizzy	politician
genuine	nowadays	hilarious	experiment

A. Write each word next to its definition.

1. very funny _____
2. real; what it seems to be _____
3. test that is used to discover or prove something _____
4. in the present time _____
5. person who holds or seeks public office _____
6. conduct that causes minor harm _____
7. having the feeling of spinning _____
8. proper way of doing something _____

B. Write two sentences. Use one vocabulary word in each sentence.

9. _____

10. _____

Name _____

Subtract Fractions Using Models



COMMON CORE STANDARD—4.NF.3d
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Subtract. Use fraction strips to help.

1. $\frac{4}{5} - \frac{1}{5} =$ $\frac{3}{5}$

2. $\frac{3}{4} - \frac{1}{4} =$

3. $\frac{5}{6} - \frac{1}{6} =$ _____

4. $\frac{7}{8} - \frac{1}{8} =$ _____

5. $1 - \frac{2}{3} =$ _____

6. $\frac{8}{10} - \frac{2}{10} =$ _____

7. $\frac{3}{4} - \frac{1}{4} =$ _____

8. $\frac{7}{6} - \frac{5}{6} =$ _____

Problem Solving



Use the table for 9 and 10.

9. Ena is making trail mix. She buys the items shown in the table. How many more pounds of pretzels than raisins does she buy?

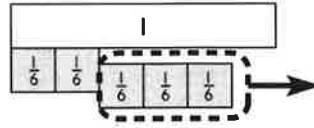
10. How many more pounds of granola than banana chips does she buy?

Item	Weight (in pounds)
Pretzels	$\frac{7}{8}$
Peanuts	$\frac{4}{8}$
Raisins	$\frac{2}{8}$
Banana Chips	$\frac{3}{8}$
Granola	$\frac{5}{8}$

Lesson Check (4.NF.3d)

1. Lee reads for $\frac{3}{4}$ hour in the morning and $\frac{2}{4}$ hour in the afternoon. How much longer does Lee read in the morning than in the afternoon? Use models to help.

2. What equation does the model below represent?



Spiral Review (4.NBT.5, 4.NF.2, 4.NF.3d)

3. A city received 2 inches of rain each day for 3 days. The meteorologist said that if the rain had been snow, each inch of rain would have been 10 inches of snow. How much snow would that city have received in the 3 days?

4. At a party there were four large submarine sandwiches, all the same size. During the party, $\frac{2}{3}$ of the chicken sandwich, $\frac{3}{4}$ of the tuna sandwich, $\frac{7}{12}$ of the roast beef sandwich, and $\frac{5}{6}$ of the veggie sandwich were eaten. Which sandwich had the least amount left?

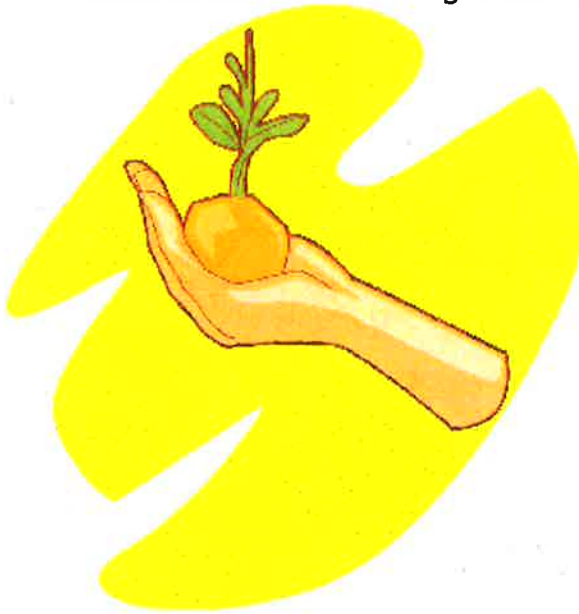
5. Deena uses $\frac{3}{8}$ cup milk and $\frac{2}{8}$ cup oil in a recipe. How much liquid is this?

6. In the car lot, $\frac{4}{12}$ of the cars are white and $\frac{3}{12}$ of the cars are blue. What fraction of the cars in the lot are either white or blue?

How Do Plants Grow?

There are all kinds of plants on earth. Different kinds of plants are adapted to living in every kind of biome. For example, desert plants can live without much water while arctic plants are adapted to the extreme cold winter temperatures. Aquatic plants live only in the water and ocean plants are adapted to life in sea water. In this lesson we will focus on the most abundant kinds of plants, those that grow from seeds with their roots in the soil.

Adult plants produce seeds that fall near them or get carried by wind, water, insects or animals to another location. Those seeds that land in a suitable spot will naturally enter into the soil and stay there until conditions are right for the seed to germinate, that is, begin to



grow. Seeds require the right amount of moisture before they begin to germinate and grow. How much water is needed depends upon the plant species. Many seeds require warmth and the right temperature before they begin to grow. That's why so many plants begin to grow in the warmth of spring.

When conditions are right, the seed begins to change and develops the earliest stages of the plant underground. No one can see this early growth because it occurs underground and it may take weeks before any part of the plant is visible above ground. At first the new plant uses energy stored within the seed itself in order to grow. Meanwhile, the plant is developing its roots and once the roots are mature enough, they take in nutrients from the surrounding soil. The plant then uses these nutrients in order to continue to grow. By then the nutrients in the seed have been used up.

Eventually the plant emerges from the ground and is visible. The amount of time it takes for a plant to emerge after the seed begins to germinate depends on the plant species. Once above ground the plant relies on energy from the sun that it takes in through its leaves as well as soil nutrients that come in through the roots. Some plants reach maturity in just a few days or a week and never get any taller. Large plants like trees grow slowly and take decades to reach their full height. When plants are mature enough they create seeds of their own and the cycle of plant life for that species begins again.

Name: _____ Date: _____

Multiple Choice Questions

Circle the correct answer.

1. Plants that can only live in water are
 - a. Arctic plants
 - b. Aquatic plants
 - c. Terrestrial plants
 - d. None of the above

2. Plants that are adapted to the extreme cold of the north are called
 - a. Arctic plants
 - b. Aquatic plants
 - c. Terrestrial plants
 - d. None of the above

3. What can move seeds away from an adult plant?
 - a. Water
 - b. Wind
 - c. Animals
 - d. All of the above

4. Before seeds can grow into plants they need the right amount of
 - a. Moisture
 - b. Warmth
 - c. Both a. and b. above
 - d. None of the above

5. The earliest growth of plants uses nutrients
 - a. From the sun
 - b. From the soil
 - c. Stored in the seed
 - d. All of the above

6. The roots of young plants take in nutrients
 - a. From the sun
 - b. From the soil
 - c. Stored in the seed
 - d. All of the above

Unit 5 Week 3

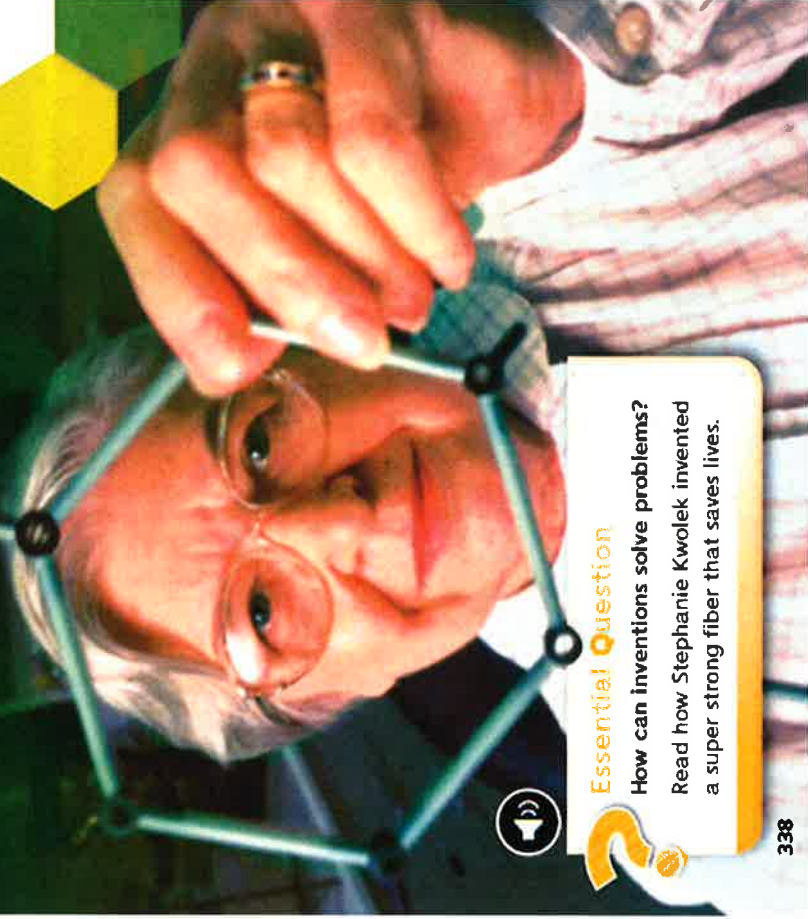
Source Title: Stephanie Kwolek: Inventor



CCSS

Shared Read

Genre • Biography

Stephanie Kwolek:
INVENTOR

Essential Question

How can inventions solve problems?

Read how Stephanie Kwolek invented a super strong fiber that saves lives.

338

1. Claim 1, Target 9: Central Ideas, Standard: RI 4.2

Read this summary of “Becoming a Chemist”.

From youth, Stephanie Kwolek was interested in math and science. She studied chemistry in college. She enjoyed doing experiments that she decided not to go to medical school.

Which key event is missing from the summary?

- Ⓐ Stephanie was always interested in math and science.
- Ⓑ Stephanie studied chemistry in college.
- Ⓒ Stephanie took a job at a textile lab after college to save money for medical school.
- Ⓓ She loved doing experiments that she decided not to go to medical school.

2. Claim 1, Target 8: Key Details, Standard: RI 4.1

Choose **two** details from the passage that best support the conclusion that the fiber that Stephanie Kwolek invented could be very useful.

- Ⓐ The fiber was tested fireproof.
- Ⓑ It took a decade to develop it.
- Ⓒ It was stronger and lighter than steel.



Kevlar® is used in protective vests for police and police dogs.



If you could invent a material for a superhero, what would it be like? It would have to be light, strong, bullet-resistant, and fireproof, right? Chemist Stephanie Kwolek actually invented a material just like this. It's called Kevlar®. Superheroes don't wear it, but everyday heroes like police officers and firefighters do.

Becoming a Chemist

From the time she was young, Stephanie was interested in math and science. She was not the kind of student who caused mischief, and she worked hard in school. Stephanie's teachers spotted her talent and talked to her about careers in science. With their encouragement, Stephanie studied chemistry in college. She had hoped to go on to medical school but could not afford it.

Consequently, Stephanie took a job working at a textile lab. She planned to save up enough money from her job so that she could pay for medical school. At the lab, she discovered that she had a **genuine** love of chemistry. She learned how to make chain-like molecules called polymers that could be spun into fabrics and plastics.

Stephanie enjoyed doing **experiments** so much that she decided not to go to medical school.

Ⓓ The name of the fiber was Kevlar.

3. Claim 1, Target 11: Reasoning and Evidence, Standard: RI 4.1

The following question has **two** parts. First, answer part A. Then, answer part B.

Part A

What inference can be made about the author's opinion of Stephanie Kwolek's qualities as an inventor in the section "A Strange Liquid"?

- Ⓐ The author believed that Stephanie Kwolek began experimenting by mixing polymers.
- Ⓑ The author believed that Stephanie Kwolek was a determined and persistent researcher.
- Ⓒ The author thought that Stephanie Kwolek was a hilarious scientist.
- Ⓓ The author believed that Stephanie Kwolek liked making strange solutions or mixtures.

Part B

Which detail from the passage **best** supports your answer in part A?

- Ⓐ Stephanie's supervisor asked her to work on making a strong fiber.
- Ⓑ When Stephanie followed the procedure, a fiber began to form.

Ⓓ Michael Branscom, courtesy of the Lencioni MIT Program; (11) Tom Wicks/Splash/Newscom; (12) Science & Society Picture Library/Getty Images



A Strange Liquid

In 1964, Stephanie's lab supervisor asked her to work on making a strong, stiff fiber. The United States was facing a possible gas shortage, and scientists wanted to help. They believed that if you could reinforce tires with a lightweight fiber rather than heavy steel wire, cars and airplanes would use less gasoline. Stephanie began experimenting by mixing polymers. One day, she made an unusual solution, or mixture. Polymer solutions are often thick like molasses. However, this solution was cloudy and watery.

Stephanie brought her strange liquid to the worker in charge of spinning liquids into fibers. He looked at Stephanie's solution and laughed. He thought it was **hilarious** that she believed it could be made into fiber. It looked too much like water and might even clog the spinning machine. But Stephanie kept urging him to spin it until he finally agreed. When he followed the **procedure**, a strong fiber began to form. Stephanie's head spun, and she felt **dizzy** with excitement.

A TIMELINE OF ACHIEVEMENTS

1923	1946	1964	1971	1995
Born in New Kensington, Pennsylvania	Earned a degree in chemistry from Carnegie Mellon University	Discovered the fibers for Kevlar®	Kevlar® first marketed	Inducted into the Inventor's Hall of Fame



Ⓒ But Stephanie kept urging his coworker to spin her strange liquid until he finally agreed.

Ⓓ Polymer solutions are often thick like molasses.

4. Claim 1, Target 10: Word Meaning, Standard: L 4.4b

Read the sentence.

"Stephanie Kwolek: Inventor" is a biography.

What does the **bio-** in the word **biography** mean?

Ⓐ life

Ⓑ writing

Ⓒ scientist

Ⓓ name

Stronger than Steel

Stephanie tested the fiber in the lab and found that it was fireproof. It was stronger and lighter than steel, too. With these qualities, she believed that the fiber could be turned into a useful material. She was right. The material became known as Kevlar®.

After Stephanie's discovery, it took almost a decade of teamwork to develop Kevlar®. Some people spent hours on the telephone with the patent office. Others had to think of ways to use and sell it. **Nowadays**, Kevlar® is used by almost everyone. The President and other **politicians** wear protective clothing made from it. So do lumberjacks, firefighters, and police officers. Kevlar® is also used in tires, bicycles, spacecraft, and skis. By developing Kevlar®, Stephanie had found a way to make protective clothing and equipment that is both light and strong.

Stephanie's invention has saved many lives over the years. She was inducted into the National Inventors Hall of Fame for her work, and her photograph has appeared on a book cover and in advertisements for Kevlar®. She says that she never expected to be an inventor but is delighted that her work has helped so many people.



Firefighters wear suits made from Kevlar.

5. Claim 1, Target 12: Analysis within/across Texts, Standard: RI 4.1

What does the information in the section "Stronger Than Steel" tell the reader about the development of inventions like Kevlar?

- A Stephanie Kwolek did not expect to become an inventor.
- B Inventions take time and teamwork for them to be developed.
- C The inventor tested the invention many times.
- D The inventor was inducted into the National Inventors Hall of Fame.

6. Claim 1, Target 13 Text Structures and Features, Standard: RI 4.7

The author included a **timeline** of Stephanie Kwolek's achievements. How does this add to the presentation of information? Choose **two** answers.

- A It is a visual of how Kevlar was invented.
- B It provided a sequence of important events in Stephanie's Kwolek's life.
- C It shows how Kevlar is stronger than steel.
- D It gave dates to when Kevlar was first marketed and when Stephanie was inducted into the National Inventors Hall of Fame.

Make Connections

What problems did Stephanie's invention solve? **ESSENTIAL QUESTION**

What would you make out of Kevlar®? Explain why. **TEXT TO SELF**

7. Claim 1, Target 10: Word Meanings, **Standard:** L 4.4a

Read the sentence from "Becoming a Chemist."

She learned how to make chain-like molecules called polymers that could be spun into fabrics and plastics.

Which sentence best states the meaning of the word polymers?

- Ⓐ Polymers are made up of steel .
- Ⓑ Polymers are made up of fabrics.
- Ⓒ Polymers have many uses.
- Ⓓ Polymers are large molecules that repeat.

8. Claim 2, Target 9: Edit Clarify (conventions), **Standard:** L 4.1

Choose the sentence that contains an error in grammar usage.

- Ⓐ The single wheel motorcycle is the worst of the three inventions.
- Ⓑ My worst fear is to fail in my invention.
- Ⓒ That experiment is worst than the one I did yesterday.
- Ⓓ The worst thing to do is to laugh at someone's efforts.

9. Claim 2, Target 9: Edit Clarify (conventions), **Standard:** L 4.2c

Which of the following sentences has no errors in punctuation?

- Ⓐ She was not the kind of student who caused mischief, and she worked hard in school.
- Ⓑ She brought her strange liquid to her coworker but, he laughed at it.
- Ⓒ The United States was facing a possible gas shortage and scientists wanted to help.
- Ⓓ She enjoyed doing experiments so she decided not to go, to medical school.

10. Claim 1, Target 9 (TM5): Constructed Response, **Standard:** RI 4.2

What were the benefits of Stephanie Kwolek's invention? Use key details from the text to support your answer.

Name _____

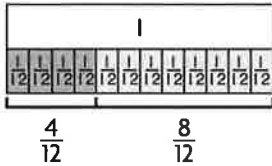
Add and Subtract Fractions



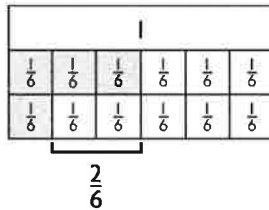
COMMON CORE STANDARDS—4.NF.3d
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Find the sum or difference.

$$1. \frac{4}{12} + \frac{8}{12} = \frac{12}{12}$$



$$2. \frac{3}{6} - \frac{1}{6} =$$



$$3. \frac{4}{5} - \frac{3}{5} =$$

$$4. \frac{6}{10} + \frac{3}{10} =$$

$$5. 1 - \frac{3}{8} =$$

$$6. \frac{1}{4} + \frac{2}{4} =$$

$$7. \frac{9}{12} - \frac{5}{12} =$$

$$8. \frac{5}{6} - \frac{2}{6} =$$

$$9. \frac{2}{3} + \frac{1}{3} =$$

Problem Solving

Use the table for 10 and 11.

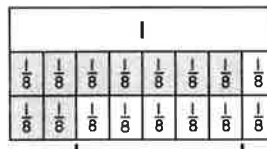
10. Guy finds how far his house is from several locations and makes the table shown. How much farther away from Guy's house is the library than the cafe?

11. If Guy walks from his house to school and back, how far does he walk?

Distance from Guy's House	
Location	Distance (in miles)
Library	$\frac{9}{10}$
School	$\frac{5}{10}$
Store	$\frac{7}{10}$
Cafe	$\frac{4}{10}$
Yogurt Shop	$\frac{6}{10}$

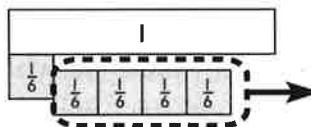
Lesson Check (4.NF.3d)

- Mr. Angulo buys $\frac{5}{8}$ pound of red grapes and $\frac{3}{8}$ pound of green grapes. How many pounds of grapes did Mr. Angulo buy?
- What equation does the model below represent?



Spiral Review (4.OA.3, 4.NBT.5, 4.NF.3d)

- There are 6 muffins in a package. How many packages will be needed to feed 48 people if each person has 2 muffins?
- Camp Oaks gets 32 boxes of orange juice and 56 boxes of apple juice. Each shelf in the cupboard can hold 8 boxes of juice. What is the least number of shelves needed for all the juice boxes?
- A machine makes 18 parts each hour. If the machine operates 24 hours a day, how many parts can it make in one day?
- What equation does the model below represent?





The Basic Structure of Plants

The basic structure of plants is also known as a plant's anatomy. There are thousands of species of plants on earth but in this lesson we will focus on the anatomy of the most abundant kinds of plants, those that grow from seeds with their roots in the soil. The roots of plants are below ground level; they are called the root system. The root system keeps the plant anchored in the soil while it also takes in nutrients for plant growth from the soil. The main root of the plant below ground, also called the tap root, joins to the plant's main stem above ground. Roots that branch off from the tap root are called

lateral roots. Lateral roots branch from the tap root like branches of tree. At the end of lateral roots are root hairs where moisture and nutrients from the soil enter the root system.

Above ground, branches may form along the main stem. Leaves will be found along the main stem if the plant does have any branches. Otherwise, leaves are on the plant's branches. Leaves have veins inside them similar to the veins of a human. The veins bring nutrients to the leaves that come up from the roots and through the stems. There are seed leaves, called cotyledons, at the bottom of the plant. Cotyledons are the first leaves to form once a plant grows above the ground. Cotyledons generally have a different shape than other leaves of the plant.

Most plants produce some kind of flower. Landscaping plants, like lilacs and roses, are chosen for the beauty of their flowers. Even species of desert cacti have lovely flowers but the flowers of many plants are not pretty or showy. Flowering is the way a mature plant creates new seeds. For some plants, like apple trees, the flowers turn into fruit and the plant's seeds are stored inside the fruit. Eventually the fruit ripens to the point where it falls and eventually bursts open. Then the seeds stored inside are able to enter the soil and begin the plant's life cycle again.

At the very top of a plant is a structure called the terminal bud. Terminal means "ending" so a terminal bud is at the top end of a plant. Complex plants like deciduous (leafy) trees have many terminal buds located on the branches.

Name: _____ Date: _____

Multiple Choice Questions

Circle the correct answer.

1. The basic structure of a plant is also known as a plant's
 - a. Astronomy
 - b. Astrology
 - c. Anatomy
 - d. All of the above

2. The purpose of the root system of a plant is
 - a. Anchor the plant in the soil
 - b. Take in nutrients from the soil
 - c. Both a. and b. above
 - d. None of the above

3. The main root of a plant is called the _____ root.
 - a. Terminal
 - b. Lateral
 - c. Hairy
 - d. Tap

4. A cotyledon is a type of
 - a. Leaf
 - b. Root
 - c. Stem
 - d. Branch

5. In some species of plants flowers turn into
 - a. Leaves
 - b. Fruit
 - c. Stems
 - d. Roots

6. Fruit is important to some species of plants because it contains
 - a. Nutrients
 - b. Seeds
 - c. Terminal buds
 - d. All of the above

Name _____

- **Comparative adjectives** compare two things. They usually end in *-er* or include the word *more* or *less*.
- **Superlative adjectives** compare more than two things. They usually end in *-est* or include the word *most* or *least*.

Complete each sentence by circling the correct comparative or superlative adjective in parentheses.

1. My hair is (longer, longest) than yours.
2. This flower is the (prettier, prettiest) of all of them.
3. The turtle in the back is the (slower, slowest) in the group.
4. My father is (stronger, strongest) than I am.
5. This lake is the (more, most) peaceful place I have ever been.
6. I am (happier, happiest) to go here than my brother is.
7. It is (less, least) sunny today than yesterday.
8. The summer is (warmer, warmest) than the winter.
9. This is the (heavier, heaviest) piece of furniture in the house.
10. She is the (smarter, smartest) girl in our school.

Name _____

- **Comparative** and **superlative adjectives** compare things. They usually end in *-er* or *-est*, or they include the words *more/most* or *less/least*.
- The comparative form of *good* is *better*. The superlative form of *good* is *best*.
- The comparative form of *bad* is *worse*. The superlative form of *bad* is *worst*.

A. Complete each sentence with *better* or *best*, based on whether a comparative or superlative form is needed.

1. This meal was _____ than the last one we ate.
2. You are the _____ friend I could ever have.
3. He had the _____ score in the entire class.
4. Tomorrow's weather will be _____ than today's.
5. I hope I feel _____ than this soon.

B. Complete each sentence with *worse* or *worst*, based on whether a comparative or superlative form is needed.

6. That is the _____ smell in the world!
7. I did _____ on the test than I thought.
8. Khalil is _____ at English than math.
9. This photo is the _____ of the three.
10. My aunt is a _____ cook than my mother.

Name _____

- A **greeting** is a polite way to start a letter. Greetings are capitalized and followed by a comma or a colon. Titles such as *Mr.* and *Mrs.* are abbreviated.
- A **closing** is a word or phrase that ends a letter. It is usually followed by a comma and the letter writer's signature.

Rewrite each letter greeting and closing using correct capitalization and punctuation.

1. To Whom It May concern: _____
2. sincerely, _____
3. Dear Mister Edwards _____
4. to the Store Manager; _____
5. Love always _____
6. Dear doctor Chen: _____
7. best wishes, _____
8. Hi Cory: _____
9. warm wishes _____
10. dear elsie, _____

Name _____

- **Comparative** and **superlative adjectives** compare things. They usually end in *-er* or *-est*, or they include the words *more/most* or *less/least*.
- The comparative and superlative forms of *good* are *better* and *best*. The comparative and superlative forms of *bad* are *worse* and *worst*.
- A **greeting** is a polite way to start a letter. It is capitalized and followed by a comma or a colon. A **closing** is a word or phrase that ends a letter. It is usually followed by a comma and the letter writer's signature.

Rewrite the letter below, correcting mistakes in comparative and superlative adjectives as well as in the letter's greeting and closing.

Dear Mister woodhouse

I am writing to say that I love your garden. My garden is much worst.

Your tomatoes are redder and your cucumbers are biggest. How do you do it?

I'm sure you know the goodest gardening secrets in the world! You are the nicer person I know. Could you help me with my garden?

Your neighbor,

Jeremy

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Name _____

Rename Fractions and Mixed Numbers**COMMON CORE STANDARD—4.NF.3b**
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.**Write the mixed number as a fraction.**

1. $2\frac{3}{5}$

2. $4\frac{1}{3}$

3. $1\frac{2}{5}$

4. $3\frac{2}{3}$

Think: Find $\frac{5}{5} + \frac{5}{5} + \frac{3}{5}$.

$$\frac{13}{5}$$

5. $4\frac{1}{8}$

6. $1\frac{7}{10}$

7. $5\frac{1}{2}$

8. $2\frac{3}{8}$

Write the fraction as a mixed number.

9. $\frac{31}{6}$

10. $\frac{20}{10}$

11. $\frac{15}{8}$

12. $\frac{13}{6}$

13. $\frac{23}{10}$

14. $\frac{19}{5}$

15. $\frac{11}{3}$

16. $\frac{9}{2}$

Problem Solving

17. A recipe calls for $2\frac{2}{4}$ cups of raisins, but Julie only has a $\frac{1}{4}$ cup measuring cup. How many $\frac{1}{4}$ cups does Julie need to measure out $2\frac{2}{4}$ cups of raisins?
18. If Julie needs $3\frac{1}{4}$ cups of oatmeal, how many $\frac{1}{4}$ cups of oatmeal will she use?

Lesson Check (4.NF.3c)

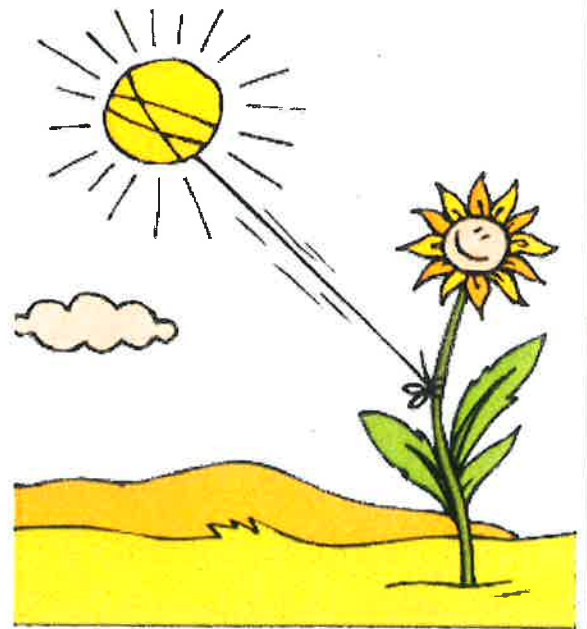
1. Write a mixed number that is equivalent to $\frac{16}{3}$.
 2. Stacey filled her $\frac{1}{2}$ cup measuring cup seven times to have enough flour for a cake recipe. How much flour does the cake recipe call for?
-
-

Spiral Review (4.NBT.5, 4.NBT.6, 4.NF.1, 4.NF.3d)

3. Becki put some stamps into her stamp collection book. She put 14 stamps on each page. If she completely filled 16 pages, how many stamps did she put in the book?
 4. Brian is driving 324 miles to visit some friends. He wants to get there in 6 hours. How many miles does he need to drive each hour?
-
-
5. During a bike challenge, riders have to collect various colored ribbons. Each $\frac{1}{2}$ mile they collect a red ribbon, each $\frac{1}{8}$ mile they collect a green ribbon, and each $\frac{1}{4}$ mile they collect a blue ribbon. Which colors of ribbons will be collected at the $\frac{3}{4}$ mile marker?
 6. Stephanie had $\frac{7}{8}$ pound of bird seed. She used $\frac{3}{8}$ pound to fill a bird feeder. How much bird seed does Stephanie have left?
-
-

How Do Plants Make Their Own Food?

Humans rely on plants for food. Even the meat we eat comes indirectly from plants. For example, cattle are the source of the beef we eat and cattle graze on plant material. Where do plants get their food? Plants are the only living things on earth that make their own food.



The process by which plants manufacture their own food is called photosynthesis. Here "photo" means "light" and "synthesis" means "make" so photosynthesis means to make something from light. Plants need sunlight in order to make their own food. Of course plants need more than just sunlight in order to make food.

In order to make food plants need:

- Sunlight
- Nutrients from the soil.

Nutrients enter the plant through its root system.

- Water.

Water also enters a plant through its root system but some species of plants can take in small amounts of water through their leaves.

- Carbon dioxide.

Carbon dioxide is a gas that is always present in the air. Its chemical formula is CO_2 which means carbon dioxide is made up of one carbon atom and two oxygen atoms. Animals breathe in oxygen and breathe out carbon dioxide. Plants take in carbon dioxide and release oxygen into the air as part of photosynthesis.

- Chlorophyll.

Chlorophyll is the substance inside plants that makes them green in color. Chlorophyll is responsible for combining sunlight, water, nutrients and carbon dioxide into food for the plant.

Photosynthesis combines water and carbon dioxide using energy from the sun to produce sugars as food for the plants. Photosynthesis also breaks down carbon dioxide and releases oxygen into the atmosphere for humans and animals to breathe. The process opposite to photosynthesis where animals breathe in oxygen and produce carbon dioxide is called respiration.

Remember that trees are plants and like other plants trees feed themselves through photosynthesis. Forests clean the air of the carbon dioxide and produce oxygen for all animals, including humans, to breathe. Forests are an important part of the earth's life cycle.

Name: _____ Date: _____

Multiple Choice Questions

Circle the correct answer.

1. In the word photosynthesis "photo" means

- a. Picture
- b. Painting
- c. Chlorophyll
- d. Light

2. Nutrients that are needed by plants enter the plant through

- a. Leaves
- b. Rain
- c. Root system
- d. Sunlight

3. One source of carbon dioxide in the atmosphere is

- a. Animals, including humans
- b. Plants
- c. Both a. and b. above
- d. None of the above

4. Photosynthesis

- a. Converts carbon dioxide to oxygen
- b. Converts oxygen to carbon dioxide
- c. Both a. and b. above
- d. None of the above

5. Photosynthesis

- a. Creates sugars for the plants
- b. Uses energy from the sun
- c. Both a. and b. above
- d. None of the above

6. When humans breathe it is called

- a. Restoration
- b. Respiration
- c. Respiratory
- d. Respite



Assignment

Write an Opinion Piece Based on the Sources

Topic: Dodgers

Note: This task uses the same sources as another task. But even if you did that task previously, please read the sources again before you start writing (the sources are repeated below).

Your Assignment:

Your class recently went on a field trip to the California Science Center. You saw an exhibit about the mechanics of swinging a baseball bat and the players in history that science considers having the best swing. This got you thinking about the baseball teams in California and which you think is the best. So, you did some research.

As part of your research you found some sources. After you reviewed these sources, you answered questions about them.

Now, in Part 2, you will write an opinion piece using information you have read.

Directions for Beginning:

You will now review several sources. You may review the sources as often as you like.

Sources for the Performance Task:

+ Source #1

You have found a "Time for Kids" article about the history of the Dodgers:

Go Dodger Blue!

By Jose Edmin

The Los Angeles Dodgers Major League Baseball (MLB) team is one of the most popular sports teams in Los Angeles. It was the first MLB team to play in LA. The team moved from Brooklyn, New York in 1957, and they have been playing in LA ever since. The franchise, or the baseball team as an organization, has been around since 1884. That is more than 130 years! The Los Angeles Angels of Anaheim are also a very popular MLB baseball team in LA. However, they have a shorter history in the area, and they do not have a record of winning that is as great as the Dodgers'!

The Dodgers have a winning history! They have won the World Series six times. The World Series is played each year in October, and it determines which MLB team is the best. It is the championship of professional baseball. The first time the Dodgers won the World Series, it was in 1955, and the team had Jackie Robinson as a player. Jackie Robinson is famous, even without being known as a Dodger, for being the first African American baseball player to play in the MLB in modern times. Although the Dodgers have a history of winning, it has been almost thirty years since they last won the World Series in 1988. Most people say that they are due, now overdue, because they lost two championships in a row due to the other teams stealing pitching signs. It could be argued that the Dodgers have technically won eight times even though they did not officially win.

The Dodgers are fan favorites for many reasons. They have a long history of bringing great baseball to the fans in blue! They have a fierce rivalry with the San Francisco Giants, another baseball team in California. Many people consider the Dodgers THE team in California, not just one of the many!

+ Source #2

You have found a chart that shows how many championships have been won by several of the baseball teams in California:

Let the Numbers Decide!

By A Loyal Giants Fan Since 1971

	Los Angeles Dodgers	Los Angeles Angels	San Francisco Giants	San Diego Padres
World Series Champions	6 Years: 1955, 1959, 1963, 1965, 1981, and 1988	1 Years: 2002	8 Years: 1905, 1921, 1922, 1933, 1954, 2010, 2012, 2014	0
National League Championship	23	Not applicable (N/A)	23	2
American League Championship	Not applicable (N/A)	1	Not applicable (N/A)	Not applicable (N/A)
Other title wins	18	10	11	5

What determines a winning organization? What makes one able to decide that they are "the best"? Many Californians believe that the best MLB (Major League Baseball) team in the state is the Dodgers. They have an extensive history in California. They are well-loved

by their fans. But, do the numbers tell the story that the fans do? You decide...with the help of the numbers, that is!



Name _____

Add and Subtract Mixed Numbers**COMMON CORE STANDARD—4.NF.3c**
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.**Find the sum. Write the sum as a mixed number, so the fractional part is less than 1.**

$$\begin{array}{r} 1. \quad 6\frac{4}{5} \\ + 3\frac{3}{5} \\ \hline 9\frac{7}{5} = 10\frac{2}{5} \end{array}$$

$$\begin{array}{r} 2. \quad 4\frac{1}{2} \\ + 2\frac{1}{2} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 2\frac{2}{3} \\ + 3\frac{2}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 6\frac{4}{5} \\ + 7\frac{4}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 9\frac{3}{6} \\ + 2\frac{2}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 8\frac{4}{12} \\ + 3\frac{6}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 4\frac{3}{8} \\ + 1\frac{5}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 9\frac{5}{10} \\ + 6\frac{3}{10} \\ \hline \end{array}$$

Find the difference.

$$\begin{array}{r} 9. \quad 6\frac{7}{8} \\ - 4\frac{3}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 4\frac{2}{3} \\ - 3\frac{1}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 6\frac{4}{5} \\ - 3\frac{3}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 7\frac{3}{4} \\ - 2\frac{1}{4} \\ \hline \end{array}$$

Problem Solving

13. James wants to send two gifts by mail. One package weighs $2\frac{3}{4}$ pounds. The other package weighs $1\frac{3}{4}$ pounds. What is the total weight of the packages?
- _____

14. Tierra bought $4\frac{3}{8}$ yards blue ribbon and $2\frac{1}{8}$ yards yellow ribbon for a craft project. How much more blue ribbon than yellow ribbon did Tierra buy?
- _____

Lesson Check (4.NF.3c)

1. Brad has two lengths of copper pipe to fit together. One has a length of $2\frac{5}{12}$ feet and the other has a length of $3\frac{7}{12}$ feet. How many feet of pipe does he have?
2. A pattern calls for $2\frac{1}{4}$ yards of material and $1\frac{1}{4}$ yards of lining. How much total fabric is needed?

Spiral Review (4.OA.3, 4.NBT.4, 4.NBT.5, 4.NBT.6)

3. Shanice has 23 baseball trading cards of star players. She agrees to sell them for \$16 each. How much money will she make from selling the cards?
4. Nanci is volunteering at the animal shelter. She wants to spend an equal amount of time playing with each dog. She has 145 minutes to play with all 7 dogs. About how much time can she spend with each dog?
5. Frieda has 12 red apples and 15 green apples. She is going to share the apples equally among 8 people and keep any extra apples for herself. How many apples will Frieda keep for herself?
6. The Lynch family bought a house for \$75,300. A few years later, they sold the house for \$80,250. How much greater was the selling price than the purchase price?



How Plants Reproduce

There are hundreds of thousands of plant species that grow in all kinds of conditions everywhere in the world. With such a great diversity of plants it's easy to understand that plants have several different types of reproduction but all plants of the same species use the same method of reproduction. Reproduction means that new plants are made from one or more parent plants. Plants that don't have flowers reproduce differently than plants that flower.

There are tens of thousands of plant species that don't have flowers. These plants use asexual reproduction to create new plants that are clones of the parent. Flowering plants can also reproduce asexually without using the flower. There are many forms of asexual plant reproduction. Some plants will send up new shoots next to the parent plant. These new shoots grow from the roots of the parent. Dandelions and aspen trees are examples of plants that grow from roots. Other plants, like irises and daylilies, reproduce from rhizomes. A rhizome is special underground stem of these types of plants. Some plants, such as daffodils and tulips, grow from bulbs. Mature plants form new bulbs next to the parent bulb to create more

plants. Some plants can even grow from leaves or stems taken from the plant and placed in the ground.

Flowering plants create seeds from their flowers through sexual reproduction. Flowering plants have male and female parts inside the flower. The male part of a flower is called the stamen and the female part is called the pistil. Insects like bees that travel from flower to flower gathering nectar pollinate the flowers. That means they bring pollen from male flower parts to female flower parts. Pollinated flowers then can create seeds. When the flower dies off the seeds get scattered to new locations by wind, rain or animals. If the seed lands in a suitable location it can germinate when conditions are right and grow into a new plant.

Some flowering plants, especially trees and bushes, produce fruit like apples and blueberries from their pollinated flowers. The plant's seed is enclosed inside the fruit and is exposed once the fruit rots away. If an animal eats the fruit the seeds will not be digested and the seed will land wherever the animal poops. Then the new tree or bush will grow far away from the parent.

Name: _____ Date: _____

Multiple Choice Questions

Circle the correct answer.

1. In plant reproduction

- a. All plants of the same species reproduce the same way
- b. New plants are made from parent plants
- c. Flowering and non-flowering plants are different
- d. All of the above

2. Asexual plant reproduction always creates plants that

- a. Are clones
- b. Flower
- c. Grow from bulbs
- d. All of the above

3. Aspen trees reproduce asexually through their

- a. Stems
- b. Roots
- c. Leaves
- d. Branches

4. A rhizome is an underground

- a. Root
- b. Stem
- c. Branch
- d. None of the above

5. Flowering plants

- a. Reproduce sexually
- b. Have male and female flower parts
- c. May produce fruit that contains seeds
- d. All of the above

6. Depending on the plant species seeds are the result of

- a. Pollinated flowers
- b. Asexual reproduction
- c. Bulbs
- d. Rhizomes

+ Source #3

You have found another article in Scholastic News about the history of baseball in California:

We've Been Here Longer!

By Art G

It isn't often mentioned that the beginning of modern baseball in America, and more specifically in California, coincided with the Gold Rush of the mid-1800's, but Alexander Cartwright, the father of modern baseball as we all know it, moved west in 1849 with a love of gold and baseball in his heart! And so the beginning of California's long baseball legacy begins!

The first team in California was the Los Angeles Angels. They actually were not the Angels of modern day, but in 1921, one of the Wrigley family members (like Wrigley gum) bought the team and built a million dollar stadium for the team in South Los Angeles. The stadium was called Wrigley Field, and it was very much like the Wrigley Field that still exists in Chicago! William K. Wrigley, Jr. owned the Chicago Cubs and the Los Angeles Angels! The Angels played at that stadium until 1961 when it closed. The stadium was shut down 5 years later.

In 1958 both the Los Angeles Dodgers and the San Francisco Giants arrived in California after a move from New York. They had been rivals in New York for nearly 70 years. The Giants decided to make the move when they heard that their big rivals, the Dodgers, were moving to Los Angeles. Thus began the "new" rivalry of the West!

When it comes to sports, everybody has an opinion! Which team is the best? It depends on which person you ask? Why is that team the best? It depends on which numbers you use to decide? Do the numbers tell the whole story? What about history and longevity? Doesn't it count for something being the first? Not even the sportscasters will comment on these tough questions! Go _____! What do you fill in?

The Assignment:

When your class was riding the bus back from the museum, your classmates begin to share their thoughts on baseball. One thing leads to another, and suddenly the discussion is which baseball team in California is the best! Many kids insist that it is the Dodgers, but others seem to disagree. Your teacher decides that this seems to be a “hot” topic, so he asks you to write a paper supporting your opinion.

In your paper, you will take a side as to whether you think the Dodgers are the best California baseball team or not. Your paper will be read by your classmates. Make sure you clearly state your opinion and write several paragraphs supporting your opinion with reasons and details from the sources. Develop your ideas clearly and use your own words, except when quoting directly from the sources. Be sure to give the source title or number for the details or facts you use.

REMEMBER: A well-written opinion paper

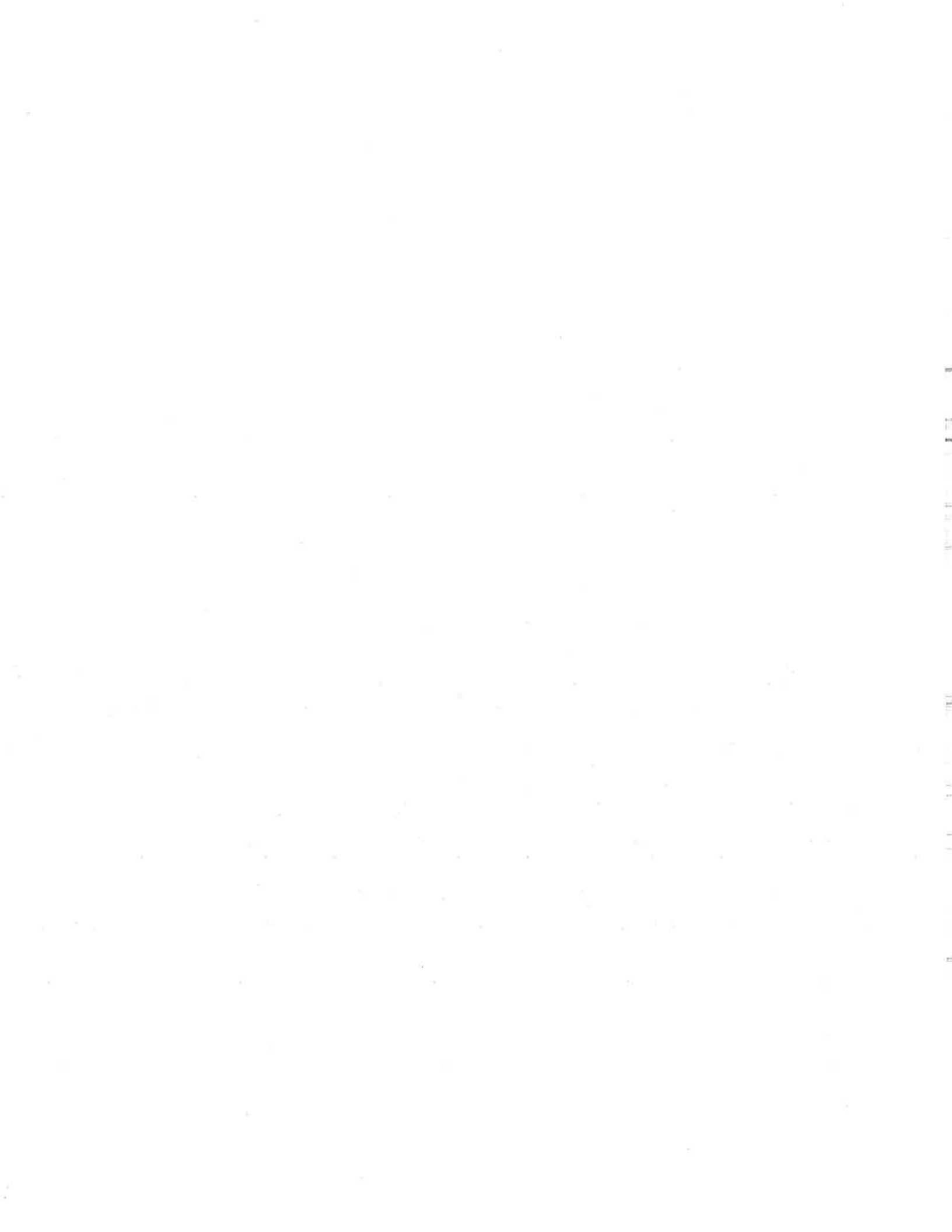
- has a clear opinion
- is well-organized and stays on the topic
- has an introduction and conclusion
- uses transitions
- uses details or facts from the sources to support your opinion
- puts the information from the sources in your own words, except when using direct quotations from the sources
- gives the title or number of the source for the details or facts you included
- develops ideas clearly
- uses clear language
- follows rules of writing (spelling, punctuation, and grammar usage)

topic: **Dodgers**

opinion: **best team in California**

long history in California	winners
<ul style="list-style-type: none">• started in 1884 in New York 😊• moved to California in 1958 (82 years ago) 😊	<ul style="list-style-type: none">• Dodgers due to win World Series 😊• Dodger more championships and titles overall ★
<p>Sources Key</p> <p>😊 = source #1</p> <p>★ = source #2</p> <p>🏆 = source #3</p>	

Your Response:



Name _____

Subtraction with Renaming**COMMON CORE STANDARD—4.NF.3c**
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Find the difference.

$$\begin{array}{r} 1. \quad 5\frac{1}{3} \rightarrow 4\frac{4}{3} \\ -3\frac{2}{3} \rightarrow 3\frac{2}{3} \\ \hline 1\frac{2}{3} \end{array}$$

$$\begin{array}{r} 2. \quad 6 \\ -3\frac{2}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 5\frac{1}{4} \\ -2\frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 9\frac{3}{8} \\ -8\frac{7}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 12\frac{3}{10} \\ -7\frac{7}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 8\frac{1}{6} \\ -3\frac{5}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 7\frac{3}{5} \\ -4\frac{4}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 10\frac{1}{2} \\ -8\frac{1}{2} \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 7\frac{1}{6} \\ -2\frac{5}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 9\frac{3}{12} \\ -4\frac{7}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 9\frac{1}{10} \\ -8\frac{7}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 9\frac{1}{3} \\ -\frac{2}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 3\frac{1}{4} \\ -1\frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 4\frac{5}{8} \\ -1\frac{7}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 5\frac{1}{12} \\ -3\frac{8}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 7 \\ -1\frac{3}{5} \\ \hline \end{array}$$

Problem Solving

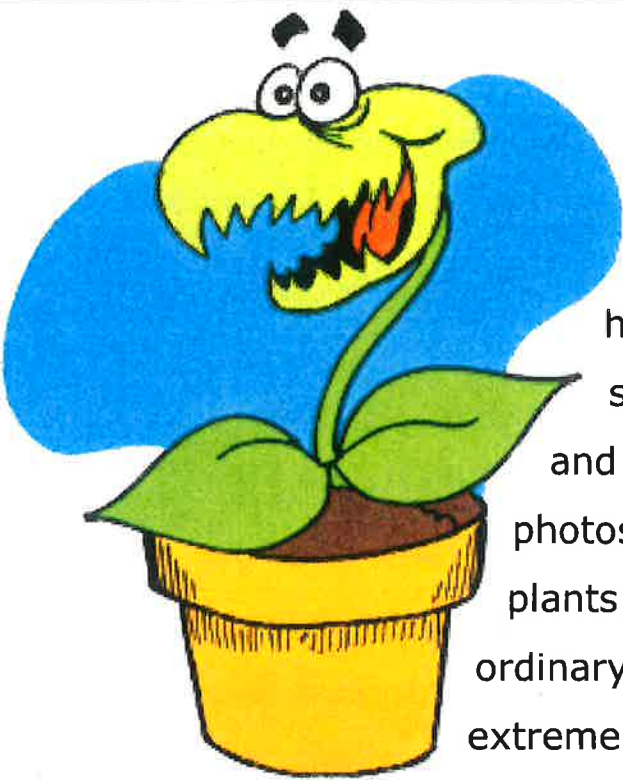
17. Alicia buys a 5-pound bag of rocks for a fish tank. She uses $1\frac{1}{8}$ pounds for a small fish bowl. How much is left?
18. Xavier made 25 pounds of roasted almonds for a fair. He has $3\frac{1}{2}$ pounds left at the end of the fair. How many pounds of roasted almonds did he sell at the fair?

Lesson Check (4.NF.3c)

1. Reggie is making a double-layer cake. The recipe for the first layer calls for $2\frac{1}{4}$ cups of sugar. The recipe for the second layer calls for $1\frac{1}{4}$ cups of sugar. Reggie has 5 cups of sugar. How much will he have left after making both recipes?
2. Kate has $4\frac{3}{8}$ yards of fabric and needs $2\frac{7}{8}$ yards to make a skirt. How much extra fabric will she have left after making the skirt?

Spiral Review (4.OA.4, 4.NBT.5, 4.NBT.6, 4.NF.3c)

3. Paulo has 128 glass beads to use to decorate picture frames. He wants to use the same number of beads on each frame. If he decorates 8 picture frames, how many beads will he put on each frame?
4. Madison is making party favors. She wants to make enough favors so each guest gets the same number of favors. She knows there will be 6 or 8 guests at the party. What is the least number of party favors Madison should make?
5. A shuttle bus makes 4 round-trips between two shopping centers each day. The bus holds 24 people. If the bus is full on each one-way trip, how many passengers are carried by the bus each day?
6. To make a fruit salad, Marvin mixes $1\frac{3}{4}$ cups of diced peaches with $2\frac{1}{4}$ cups of diced pears. How many cups of peaches and pears are in the fruit salad?



Strange Plants

The plants that we are accustomed to seeing every day have roots in the soil; have a center stalk or, in the case of trees, a trunk; and obtain their food through photosynthesis. It's easy to label these plants of every size, shape and biome as ordinary plants. Meanwhile there are some extreme plants that we can readily say are strange plants. Strange plants are found in some unusual places.

The most famous plants that are in the strange category are carnivorous plants. These plants obtain some of their nutrients by trapping and digesting insects and sometimes small amphibians like little frogs. The Venus flytrap is native only to North and South Carolina in the United States where it grows in poor soil that lacks nutrients. It somehow adapted to trapping insects to add the proteins it needs to survive. The Venus flytrap is not a tropical plant and it does survive the Carolina mild winters. The Venus flytrap has a pod that opens into halves. When an insect travels between the halves they quickly close like a trap. The insect cannot escape and is digested.

Another carnivorous plant is called sundew, which grows in Australia. The sundew flower has small sticky spikes. When an insect lands on a sundew flower it remains stuck and gets digested for its nutrients.

There are even plants that don't require any soil for growth. Some aquatic plants like the water hyacinth live by floating in water with roots that dangle downward. They get their nutrition from the air and water. Air plants don't need soil either. Air plants obtain all their nutrients by absorbing them from the air through their leaves. Air plants are called epiphytes and they usually are found growing on the branches of trees, using the tree only for support.

Other strange flowers give off a bad smell, usually like rotting flesh, in order to attract flies and other insects. Some of these plants are carnivorous but the Stapelia flower of Africa uses the rotten smell to attract pollinators. The Stapelia flower has pollen that sticks to the body of a visiting insect and this insect carries the pollen to other Stapelia flowers so they can reproduce.

These are just some examples of strange flowers. Botanists study strange flowers to learn more about the natural world around us.

Name: _____ Date: _____

Multiple Choice Questions

Circle the correct answer.

1. Carnivorous plants

- a. Do not need soil
- b. Trap and digest insects
- c. Trap and eat small mammals
- d. Grow in the air

2. A carnivorous plant native to the United States is

- a. Venus flytrap
- b. Stapelia
- c. Sundew
- d. None of the above

3. The Venus flytrap captures insects

- a. On sticky spikes
- b. On sticky leaves
- c. In a pod that opens and shuts
- d. Underground, in its roots

4. Water hyacinths are

- a. Epiphytes
- b. Carnivorous
- c. Terrestrial
- d. Aquatic

5. Plants that obtain all their nutrients by absorbing them from the air are called

- a. Epiphytes
- b. Carnivorous
- c. Terrestrial
- d. Aquatic

6. Flies are attracted to plants that smell like

- a. Apples
- b. Lettuce
- c. Rotting flesh
- d. All of the above



Compton USD

Learning Packet # 5

ELD

Grade 4

Name: _____

4th Grade-ELD Learning Packet

TABLE OF CONTENTS






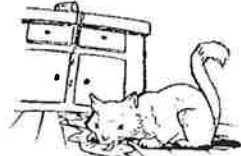
Week 6

Day	Lesson	Date Completed
1	Vocabulary: Follow this steps: a. Say the word aloud b. Read the sentence aloud c. Find a cognate to the word and say it aloud d. Write a sentence using each word *Use the pictures to help yourselves to find the cognates and to build the sentences.	
	Comprehension and Fluency: Read the literary passage "Breaking the Silence" : Answer questions in section A (1-3).	
2	Vocabulary: Greek Roots. Read the information in the box. Complete activities 1-3.	
	Comprehension: Read the passage "Uses for the Glovet" . Then, complete the Problem & Solution graphic organizer with the information from the text.	
3	Vowel teams/ Greek and Latin Roots. Read the information in the box. Then, complete sections A (questions 1-5) and B (questions 1-5)	
	Genre/Text Feature: Read the biography "Thomas Edison" . Answer questions 1-4.	
4	Differentiated Texts: Read the biography "Ellen Ochoa" . Respond to the text by reading and completing the sentences 1-3. Then, Complete the sentences at the bottom..	
	Writing Traits: Sentence Fluency. Read the Draft Model. Use the questions to help you to revise the draft. Then, revise the draft by adding transitions to move smoothly from one idea to another.	
	Write to Sources: Read the passage paragraph. Then, follow the directions 1-4 to mark the text.	
5	Leveled Reader: Read the book "The Inventive Lewis Latimer" . Then, <ul style="list-style-type: none"> ● Complete the questions on page 15 ● Read "The Nature of Light" - pages 16-18 ● complete the questions on pages 20-21 	

Recommended Online Usage	
<input type="checkbox"/> I-Ready Reading - 45 minutes per week	<input type="checkbox"/> I-Ready Math - 45 minutes per week
<input type="checkbox"/> Imagine Learning for English Learners - 90 minutes per week	<input type="checkbox"/> Dreambox - 90 minutes per week

Name _____

Use the word chart to study this week's vocabulary words.
Write a sentence using each word in your writer's notebook.

Word	Context Sentence	Illustration
<p>nowadays</p>	<p>People used to walk more, but <u>nowadays</u> they tend to drive.</p>	
<p>genuine</p>	<p>My smile was <u>genuine</u> because I really liked the gift.</p>	
<p>politician</p>	<p>She worked her whole life to become a <u>politician</u>.</p>	
<p>dizzy</p>	<p>He spun around in circles until he was <u>dizzy</u>.</p>	
<p>hilarious</p>	<p>My little brother thinks my silly faces are <u>hilarious</u>.</p>	
<p>mischief</p>	<p>My cat loves to get into <u>mischief</u>.</p>	

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Name _____

Read the passage. Use the summarize strategy to find the most important ideas in the passage.

Breaking the Silence

10 American Sign Language (ASL) is used by people who cannot
19 hear. Science student Jose Hernandez-Rebollar realized that not many
hearing people knew ASL. He thought of a new tool to help them.

32 Early Years

34 Hernandez-Rebollar is from
37 Mexico, where he was an engineer.
43 He even helped make the largest
49 telescope in the world!

53 In 1998, he came to study in the
61 United States and began to work on
68 his new tool. It was a glove called
76 the AcceleGlove.



The hearing impaired use American Sign Language to communicate with each other.

78 His Invention

80 The logic behind his glove is that people use their hands to sign.
93 When someone puts the glove on, the glove sends signals when the
105 hand and wrist move. The glove turns the motion into words.

116 A computer reads the signals. It sorts the type of hand movement.
128 The hand movement is matched with the right word. An automatic
139 computer voice says the word.

Name _____

A. Reread the passage and answer the questions.

1. What is one problem explained in paragraph 1?

2. What is a solution to the problem in paragraph 1?

3. Paragraph 6 discusses the hearing impaired who move to the United States. What is the problem that Jose Hernandez-Rebollar’s invention tries to prevent? What is the solution his invention offers?

B. Work with a partner. Read the passage aloud. Pay attention to rate and accuracy. Stop after one minute. Fill out the chart.

	Words Read	-	Number of Errors	=	Words Correct Score
First Read		-		=	
Second Read		-		=	

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Name _____

Knowing **Greek roots** can help you figure out the meanings of unfamiliar words. Look at the example in the sentence below.

The four seasons are part of a *cycle*.

The Greek root *cycl-* means "circular." The word *cycle* means "a series of events that happen over and over again in the same order."

Below are some other familiar Greek roots and their meanings.

tele = far

auto = self

techn = art, skill

Read the sentences below. The word in bold in each sentence has a Greek root. Use the Greek roots and their meanings from the box above to figure out the best definition of the word in bold. Then circle the letter of the correct answer.

1. He even helped make the largest **telescope** in the world!
 - a. an instrument used to see something that is close
 - b. an instrument used to see something that is far away

2. An **automatic** computer voice says the word.
 - a. done with a person's control
 - b. works by itself

3. The armed forces use a communication **technique** that involves silent hand movements out in the field.
 - a. a skillful way of bringing about a result
 - b. an easy way to get a result

Name _____

Uses for the Glove

The AcceleGlove can do many things. It can help people talk quickly. It can be used to teach sign language. The glove can also translate ASL into Spanish as well as English. This can help people who move to this country. One day the glove may help make one common sign language.

More studies are planned for the glove. The glove will learn more words. It will make fewer mistakes.

People who can hear can also use the glove. The armed forces use a communication technique that involves silent hand movements out in the field. The glove can help them send notes just by moving their hands. The glove might also be used to play games on a computer. It could help people play in a new way.

One day, the glove could end up meeting the needs of both people who can and cannot hear.



Dr. Hernandez-Rebollar's
AcceleGlove helps people
communicate.

Name _____

Read the selection. Complete the problem and solution graphic organizer.

Problem	Solution

Name _____

When two vowels appear together in a word, they work as a vowel team to form one vowel sound.

boat

plain

tree

A syllable that includes a vowel team is called a vowel-team syllable.

lead as in *mislead*

maid as in *maiden*

A. Read the words in each row. Write the word that contains a vowel team. The first one has been done for you.

- | | | | |
|------------|--------|-----------|--------------|
| 1. brake | state | speed | <u>speed</u> |
| 2. filed | sneak | dinner | _____ |
| 3. trainer | smoke | return | _____ |
| 4. secret | repeat | became | _____ |
| 5. summer | basic | staircase | _____ |

Many English words include Greek and Latin roots. Knowing the meanings of these roots can help you understand the meaning of unfamiliar words.

- The Greek root *scop* means "see." • The Latin root *ped* means "foot."
- The Greek root *bio* means "life." • The Latin root *aud* means "listen."
- The Greek root *photo* means "light."

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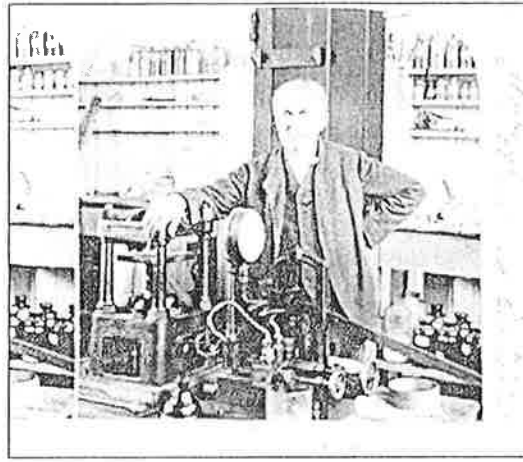
B. Read each word. Circle the Greek or Latin root in the word. The first one has been done for you.

- | | | |
|-----------------------|---------------|--------------|
| 1. <u>ped</u> estrian | 3. auditorium | 5. telescope |
| 2. photocopy | 4. biography | |

Name _____

Thomas Edison

Thomas Edison was one of the world's greatest inventors. He was born in Ohio in 1847. When he was young, Edison wanted to know how things worked. Many of Edison's inventions are still used today. In 1877, he invented the phonograph, or record player. In 1879 he made a new light bulb. He made a Kinetograph in 1891. This later became the movie camera.



Library of Congress, Prints and Photographs Division

Thomas Edison thought up over 1,000 inventions.

Answer the questions about the text.

1. A biography is the story of a real person's life written by another person. How can you tell this is a biography?

2. What is the title of the text? What does it tell you?

3. What is another text feature found in this text?

4. What information do the photo and caption give you?



Essential Question

How can inventions solve problems?

Use Graphic Organizer 142 to take notes while you read.

Ellen Ochoa

Biography

Ellen Ochoa is an inventor, scientist, and astronaut. She was born in Los Angeles, California, in 1958. As a child, Ellen had many interests. Although she loved math and science, Ellen was a very talented flutist. Would she be a scientist or a musician? That was a genuine question. At her mother's **urging**, Ellen went to college. When she graduated from Stanford University in 1985, Dr. Ochoa was an electrical engineer.

In college, Ellen learned about how light and sight behave in our world. This area of science is called *optics*. Dr. Ochoa did research and experiments. She wanted to **develop** new ways to get information from images. Dr. Ochoa helped to develop different inventions based on this research.

One of her inventions offered a new way to examine an image very accurately. This invention can pick out a tiny object in an image from space, and it can even help a spacecraft land on a planet such as Mars. How? The invention is a machine that picks out exact locations in an image. It

helps a camera find the best landing place for the spacecraft.

Because of Dr. Ochoa's interest in space, she wanted to become an astronaut. Nowadays there are many female astronauts. But there were no female astronauts when Dr. Ochoa was young. When the space shuttle *Discovery* blasted off in 1993, Dr. Ochoa was on board. She became the first Hispanic American woman in space. Today, Dr. Ochoa is the director of NASA's Johnson Space Center. She strongly believes that young people should find challenging careers.



Dr. Ellen Ochoa is on board the space shuttle *Discovery*. Between 1994 and 2002 she was an astronaut on three more space shuttle missions.

Respond to the Text

Name _____

Read the text. Use the graphic organizer 142 to record your ideas and notes. Have a collaborative conversation with your partner. Use the sentences below to start the conversation. Cite text evidence and record your ideas on the graphic organizer. Present your ideas to the class.


1. Explain what Dr. Ochoa learned by studying optics.

Dr. Ochoa learned _____

2. Discuss how Dr. Ochoa's invention changed the way scientists looked at an image from space.

Dr. Ochoa's invention can _____ in a space image.

3. Explain how Dr. Ochoa's invention can help a spacecraft land on a planet such as Mars.

 **Write** Work with a partner. Discuss your notes about "Ellen Ochoa." Then write your answer to the Essential Question.

How can inventions solve problems?

A problem that a spacecraft going to Mars might face is _____

To solve this problem, Dr. Ochoa's invention _____

Name _____

A. Read the draft model. Use the questions that follow the draft to help you use transitions to connect ideas.

Draft Model

Why is the smartphone the most important invention? It helps people stay connected. It allows people to look up information easily. You can use it to get directions. It is not just a phone—it is a tiny computer.

1. How many supporting sentences are there for this draft model?
2. Is there a logical flow from one idea to the next?
3. What transition words would fit well at the beginning of some of the supporting sentences?

B. Now revise the draft by adding transitions to move smoothly from one idea to another.

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Name _____

Brady wrote the paragraphs below using text evidence from two different sources to answer the prompt: *How did Ben Franklin use electrical energy and how is it used today?*

In *How Ben Franklin Stole the Lightning*, Franklin believed that lightning was electricity, and he proved it. His kite experiment showed that electricity moves through wire. At the time, lightning strikes were causing a lot of fires. So Franklin invented the lightning rod, which controlled electricity by channeling the electricity in lightning safely into the ground.

Next, electricity was distributed through wires, and modern life came to depend on it. "Energy is Everywhere" tells us that electricity is an "energy carrier," because it's created from one form of energy, such as fossil fuels, and produces another form of energy, such as light from a light bulb. First, the electrical energy is created in power plants and then travels to homes and factories through wires. When people "plug into it," the electrical energy produces other types of energy. Electricity is easier to use now than it was in Franklin's time.

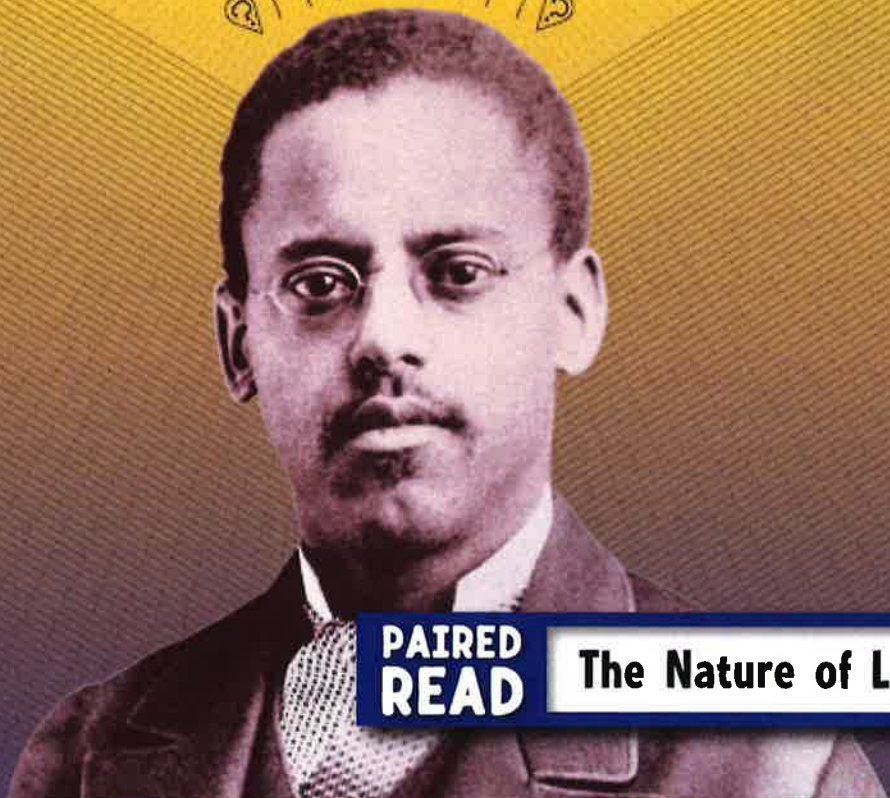
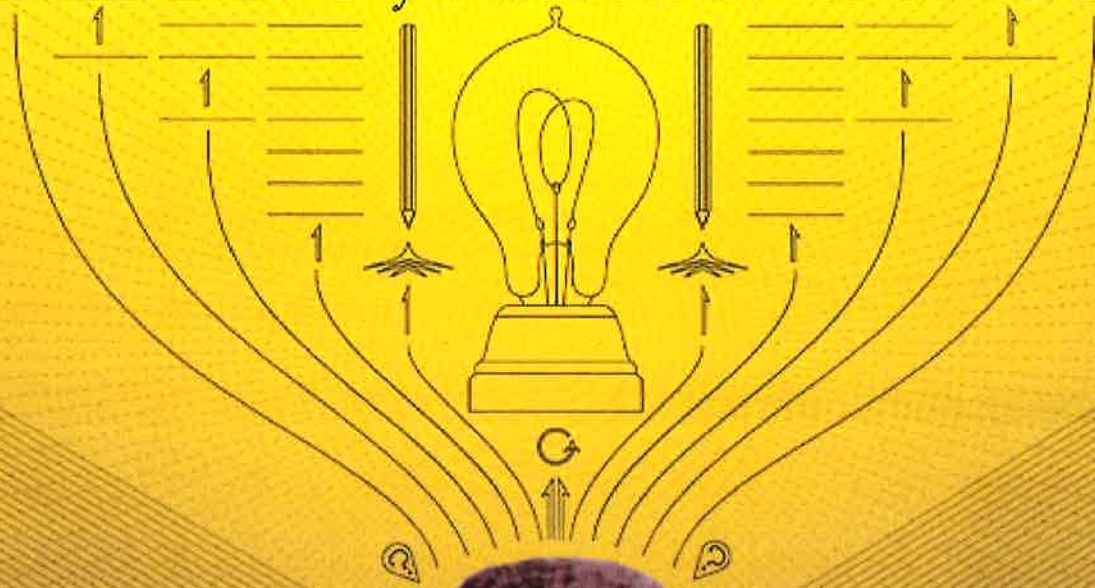
Reread the passage. Follow the directions below.

1. **Draw a circle** around a concrete word that describes how Franklin controlled electricity.
 2. **Underline** a transition word that connects the two paragraphs.
 3. **Draw a box around** an example that supports the idea that electricity is created from one form of energy.
 4. **Write** a sentence from the essay that uses an adjective that compares.
-

Biography

The
INVENTIVE
LEWIS
LATIMER

by Maria Gill



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Hill
Education

**PAIRED
READ**

The Nature of Light

STRATEGIES & SKILLS

Comprehension

Strategy: Summarize

Skill: Problem and Solution

ELL Vocabulary

applied, demonstrate,
determined

Vocabulary

dizzying, experiments,
genuine, hilarious, mischief,
nowadays, politicians,
procedure

Content Standards

Science

Physical Science

Word Count: 957**

Photography Credit: Cover Queens Borough Library, Long Island Division, Latimer Family Papers

**The total word count is based on words in the running text and headings only. Numerals and words in captions, labels, diagrams, charts, and sidebars are not included.

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Essential Question

How can inventions solve problems?



The
INVENTIVE
LEWIS
LATIMER
by Maria Gill

Chapter 1

A Difficult Start.....2

Chapter 2

Drawing His Way6

Chapter 3

A Bright Light10

Respond to Reading.....15

**PAIRED
READ**

The Nature of Light16

Glossary/Index19

STEM Focus on Science.....20

A DIFFICULT START



Lewis Latimer became an important inventor.

Lewis Latimer was born in the nineteenth century. He grew up at a time when black people were enslaved and they had few rights.

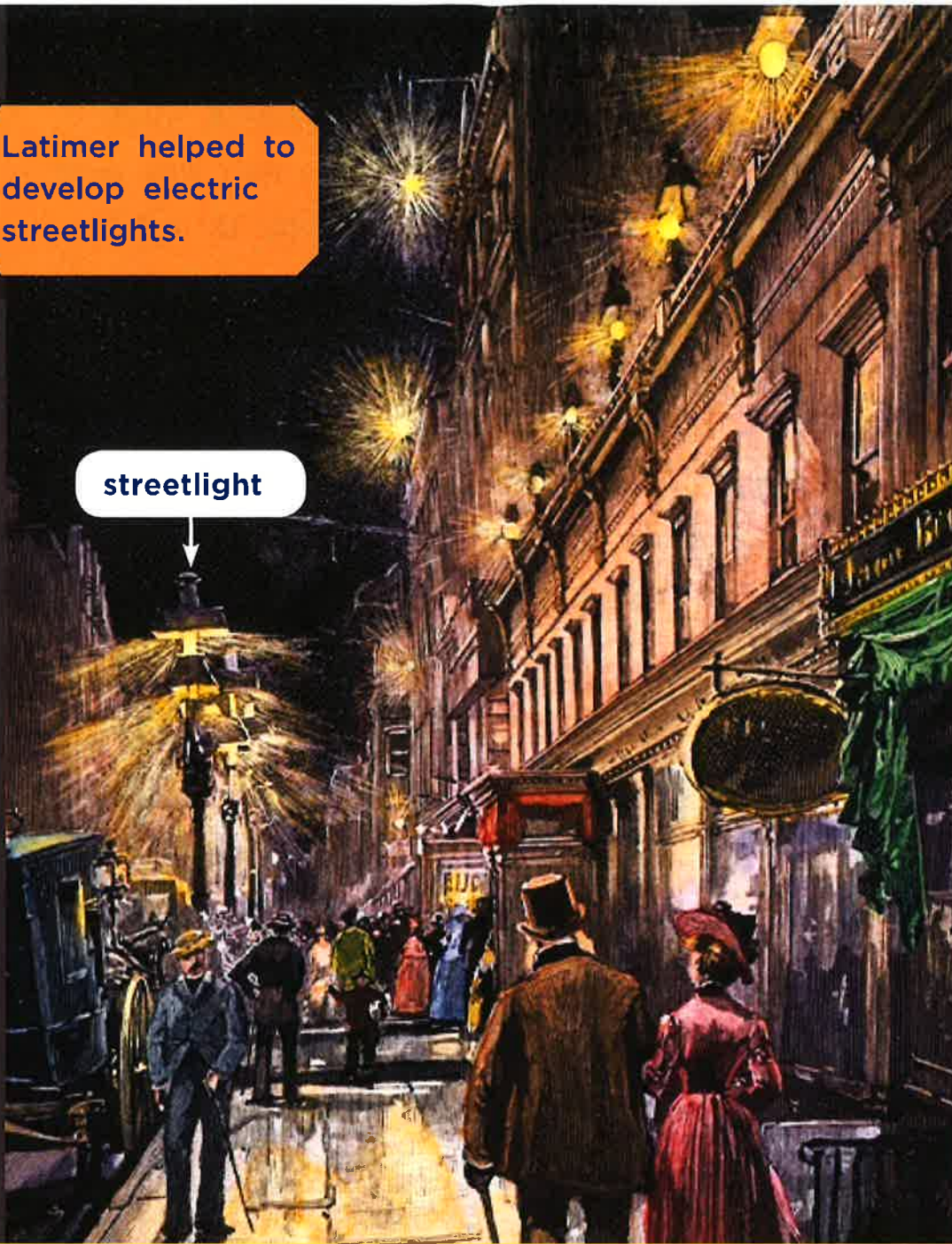
However, things were changing. Many politicians and other people wanted to outlaw slavery. They thought every American should live free. The Civil

War (1861–1865) ended slavery in the United States.

Lewis Latimer didn't let the difficult times stop him from working with three of the United States's greatest inventors. He became an important inventor as well.

Latimer helped to develop electric streetlights.

streetlight



Latimer worked hard. He was determined to succeed. He found genuine solutions to problems. Latimer improved the light bulb to make electric light more affordable.

He received help from other people. In return, he helped other people to follow their dreams.

Lewis Latimer was born on September 4, 1848, in Chelsea, Massachusetts. His parents had run away from slavery in Virginia six years earlier in 1842.

They fled to Massachusetts, and Lewis's father, George, was arrested. Massachusetts was a free state. A judge ruled that Lewis's father was still an enslaved person even if he lived in a free state.

Many people protested the judge's decision. Finally, a supporter of George Latimer paid to free him.

Lewis's father worked hard, but the family was poor. Lewis often missed school to help his father. There was little opportunity for mischief or play.

In Other Words whether or not. En español, *even if* quiere decir *aunque*.

\$50 Reward.

RANAWAY from the subscriber last evening, negro Woman REBECCA, in company (as is supposed) with her husband, George Latimer, belonging to Mr James B Gray, of this place. She is about 20 years of age, dark mulatto or copper colored, good countenance, bland voice and self-possessed and easy in her manners when addressed.— She was married in Peorday last and at this time obviously *enclave*. She will in all probability endeavor, to reach some one of the free States.

All persons are hereby cautioned against harboring said slave, and persons of venality from carrying her from this port. The above reward will be paid upon delivery to

MARY D SAYER,

oc 5 18

Granby street.

\$50 Dollars Reward.

RANAWAY on Monday night last my Negro Man George, commonly called George Latimer. He is about 5 feet 3 or 4 inches high, about 23 years of age, his complexion a bright yellow, is of a compact well made frame, and is rather silent and slow spoken — I suspect that he went North Tuesday, and will give Fifty Dollars reward and pay all necessary expenses, if taken out of the State. Twenty Five Dollars reward will be given for his apprehension within the State.

His wife is also missing and I suspect that they went off together.

oc 5 18

JAMES B GRAY

The slaveholder advertised in newspapers for news of runaways George Latimer and his wife, Rebecca.

When Lewis was eight, a court decided that an enslaved person who lived in a free state was not free. Lewis's father disappeared, probably to avoid being enslaved again. Lewis quit school and got a job to help his family survive.

When Lewis was 13, the Civil War began. He joined the Union navy when he was 16.

Later, Latimer said the courage of the African American soldiers in the war demonstrated that they were equal citizens.

STOP AND CHECK

Describe Lewis Latimer's childhood.

The Civil War

In November 1860, Abraham Lincoln was elected President of the United States. He wanted to end slavery, but 11 southern states refused. The southern states seceded and formed the Confederate States of America. The remaining states opposed slavery. They were called the Union.

In April 1861, the Civil War broke out. After four years, the Union won the war. Slavery was abolished in the United States.

Latimer served on the U.S.S. *Massasoit* during the Civil War.



DRAWING HIS WAY

After the Civil War, Latimer worked for a law firm in Boston, Massachusetts. The law firm applied for **patents** for new inventions. **Drafters** made drawings to demonstrate how the inventions worked.

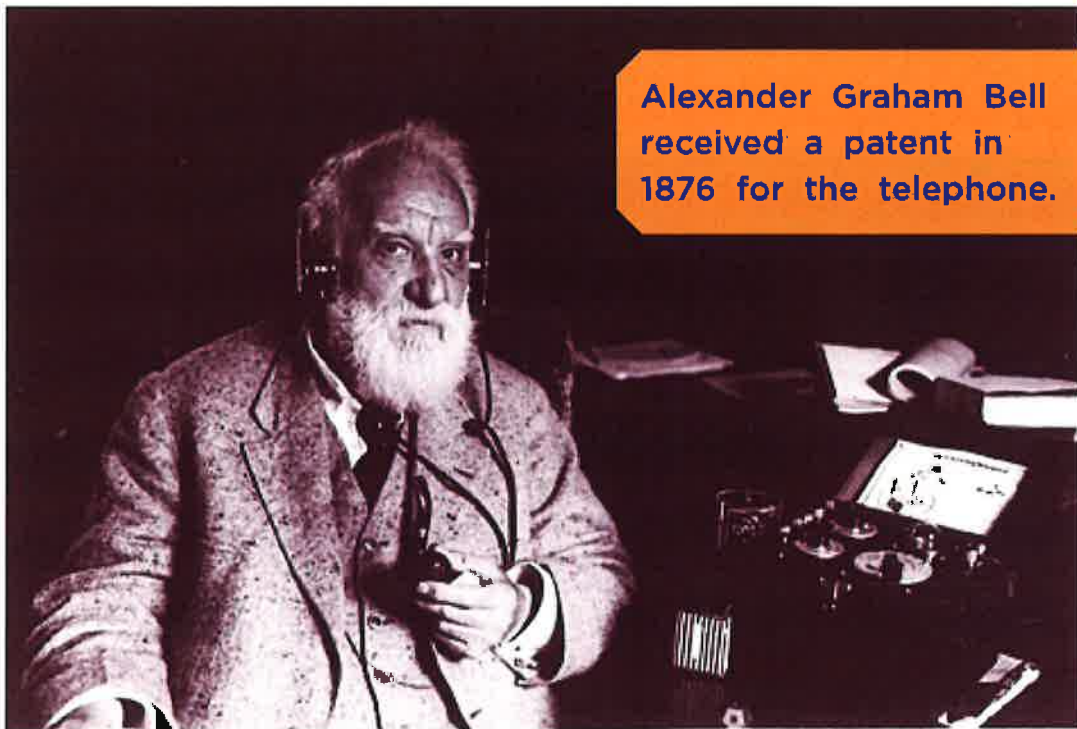
Latimer decided to learn drafting. He borrowed tools and books on how to draw machines.

He practiced drafting at night. Then he showed his boss what he could do. His boss was pleased and gave Latimer a job as a drafter.



One day, Latimer met a teacher named Alexander Graham Bell, and they became friends. Bell taught at a school for deaf people.

Bell showed Latimer drawings for a machine. Bell had invented a machine to help deaf people to hear. The machine later became the telephone.

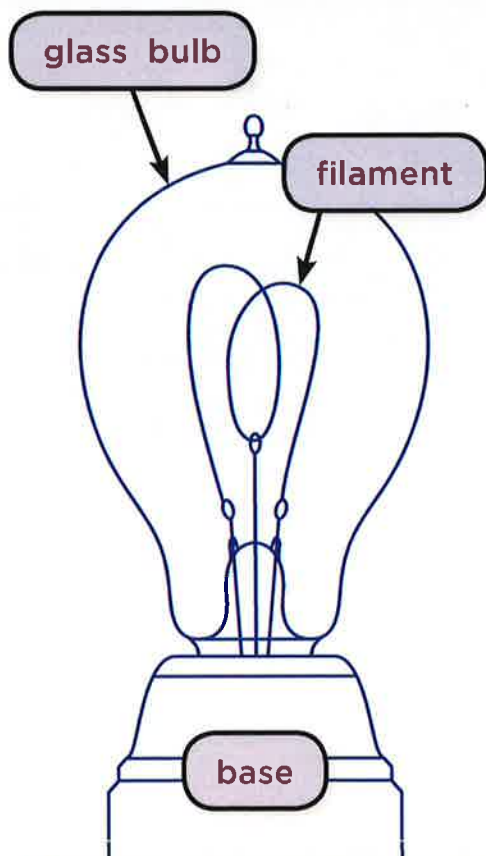


Bell wanted to protect his invention, so he decided to apply for a patent. He asked Latimer to do the drawings of his machine.

Inventions such as Bell's telephone were changing the world at a dizzying rate. Thomas Edison had invented a light bulb. It burned for several hours.

In 1880, Latimer worked as a drafter for another inventor, Hiram Maxim. Maxim owned the United States Electric Lighting Company. The United States Electric Lighting Company was making electric bulbs, too.

Edison's Light Bulb



This is a model of Edison's first light bulb.

In 1878 and 1879, Thomas Edison worked to invent a light bulb that could burn for several hours. A light bulb uses electricity to heat a piece of material called a **filament**. The filament lights up when it gets hot.

Edison tested thousands of different materials. All of the materials got too hot and burned too rapidly. Finally Edison discovered that a filament made from cotton burned for 15 hours.



Hiram Maxim's company produced light bulbs.

Latimer realized that electricity would improve people's lives. Electric machines would help people do work faster. Electric lights would allow people to read, work, and do many other things at night.

However, light bulbs were expensive and did not last long. Latimer wanted to make cheaper and better light bulbs. Other inventors around the world were also trying to improve the light bulb.

STOP AND CHECK

What did Latimer do after the Civil War?

A BRIGHT LIGHT

Latimer conducted many experiments to improve light bulbs. In 1881, he discovered that a filament lasted longer when it was inside a special cardboard envelope. The cardboard envelope also made a brighter light.

Latimer made other improvements, and he applied for patents on his inventions. His inventions made it possible to make cheaper light bulbs.

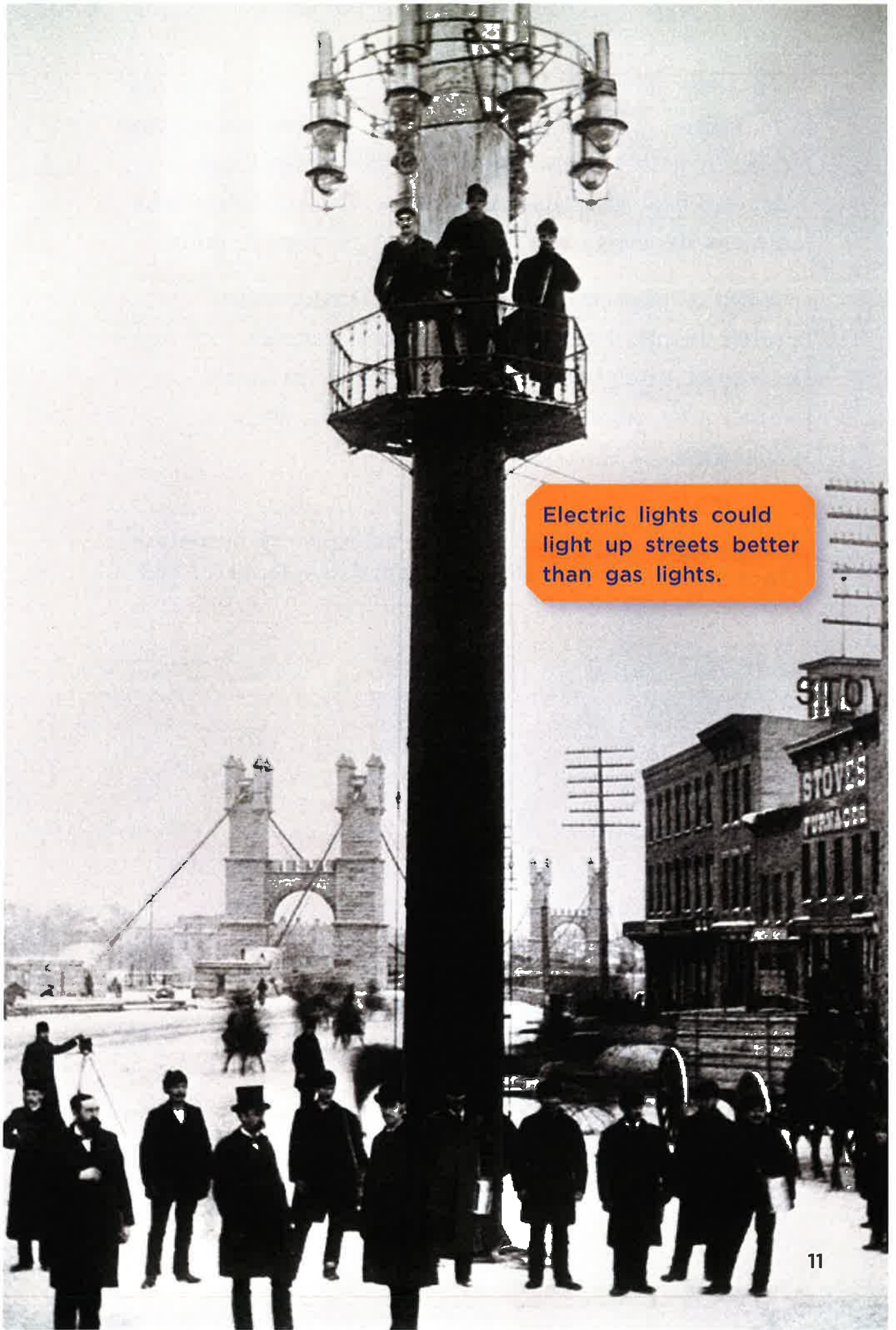
Latimer's boss, Hiram Maxim, built factories to make the new light bulbs. Latimer was in charge of planning the new factories. He traveled around the United States, Canada, and England.

Latimer became an expert on electricity. He advised city councils about the best procedure for installing electric lights on city streets. His work helped cities to light their streets.

Language Detective

Brighter is a comparative adjective. Find another example on this page.

In Other Words responsible for. En español, *in charge of* quiere decir *encargado de*.



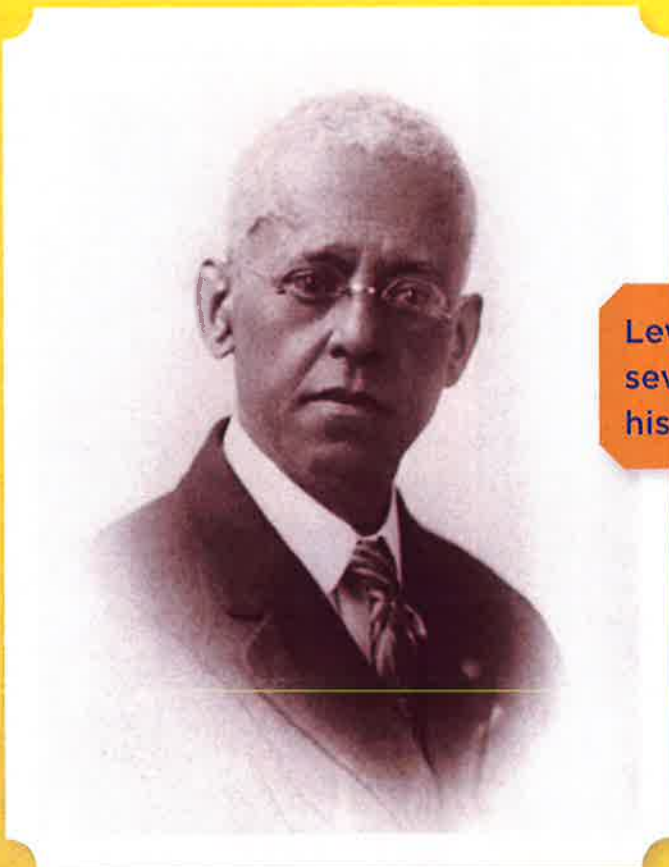
Electric lights could light up streets better than gas lights.

In 1884, Thomas Edison asked Latimer to work for him. Edison was suing some of the electric companies. He claimed they were using his light bulb design. This was bad for Edison's business. Edison knew that Latimer's expertise would help him to win in court.

Latimer worked with Edison for many years. Latimer helped Edison apply for new patents. He helped defend Edison's new designs in court. Latimer also created his own inventions, such as an elevator.

**Language
Detective**

Bad is an irregular adjective. What are the comparative and superlative forms of bad?



Lewis Latimer held several patents of his own.

The Edison Pioneers



Edison was grateful for Latimer's help. In 1918, Edison invited Latimer to join a group called the Edison Pioneers. The members of the group were inventors who had worked with Edison. Latimer was the only African American in the group.

Lewis Latimer is first on the left in the front row. Thomas Edison is second from the bottom right.

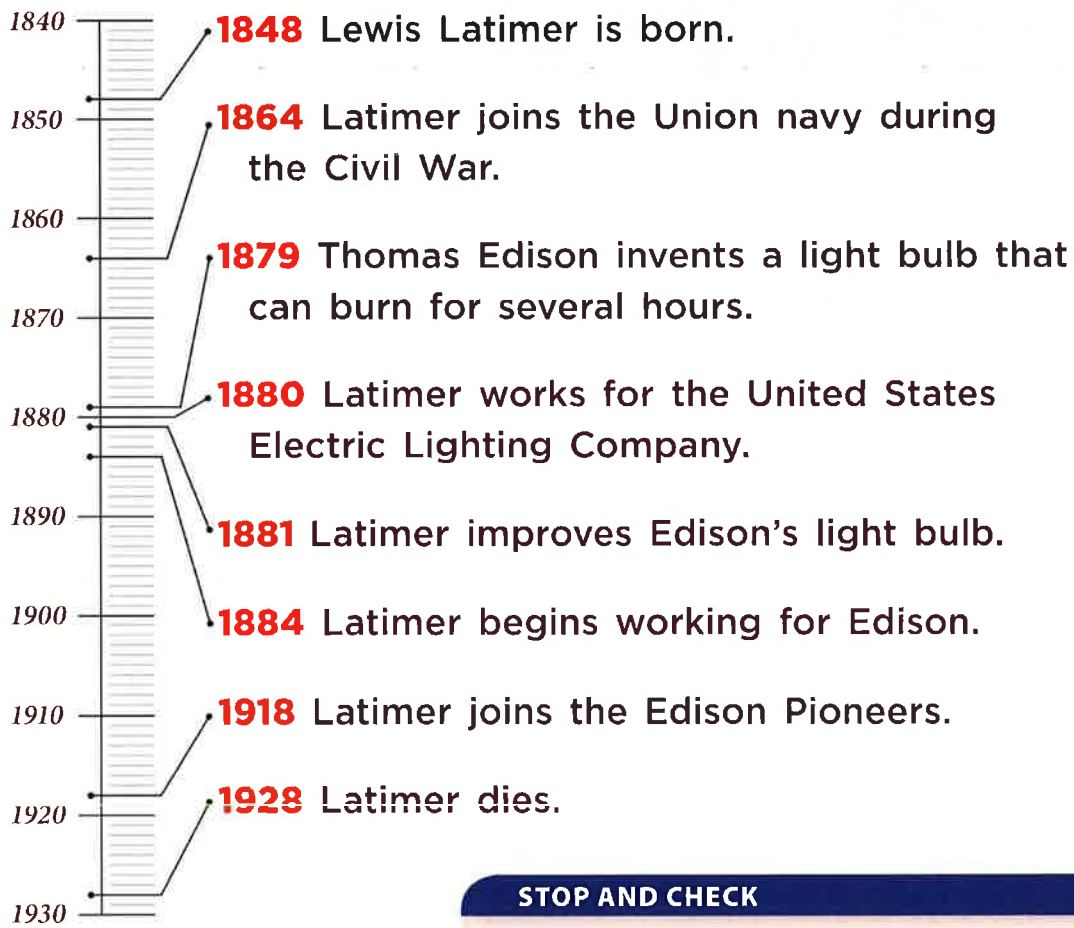
Latimer also helped other people. He remembered the challenges he faced when he was young.

Latimer worked to improve the rights of African Americans. He taught English and drafting to immigrants at night. He also helped young inventors apply for patents.

Lewis Latimer's early life was difficult, but he had a successful life. He always worked to improve his life and help others.

People's lives are better because of his work. His inventions helped light homes, businesses, and cities. His work with immigrants, African Americans, and young inventors made their lives brighter, too.

Time Line



STOP AND CHECK

What did Lewis Latimer achieve?

Respond to Reading

Summarize

Use important details to summarize *The Inventive Lewis Latimer*. Your graphic organizer may help you.

Problem	Solution

Text Evidence

1. What kind of text is *The Inventive Lewis Latimer*? How do you know? **GENRE**
2. Reread pages 9 and 10. What problem did Lewis Latimer solve? How did he solve it?
PROBLEM AND SOLUTION
3. Find the word *telephone* on page 7. This word comes from the Greek roots *tele* and *phon*. The root *tele* means "far." Use the meaning of the word *telephone* to figure out the meaning of the root *phon*. **GREEK ROOTS**
4. Write about an important invention discussed in *The Inventive Lewis Latimer*. What problem did the invention solve? Include details from the text in your answer. **WRITE ABOUT READING**

Compare Texts

Read about how an electric circuit gets electricity where you need it.



The Nature of Light



Today we turn on a switch, and the light goes on. We might think it's hilarious that Thomas Edison invented a light bulb that burned for only 15 hours. Nowadays light bulbs last up to 20,000 hours! It took a lot of work to achieve this.

A light bulb needs an electric **circuit**. The circuit makes a path for the electricity to follow. Electricity flows from a power source to the light bulb and back again. The power source for this circuit is a battery. The battery, light bulb, and wires form a complete loop.

Testing Light Bulbs in an Electric Circuit

You can make an electric circuit and test how well a battery powers a light bulb. You can add light bulbs to the circuit to discover how many bulbs the battery can light up. You will need an adult to help you complete the activity.

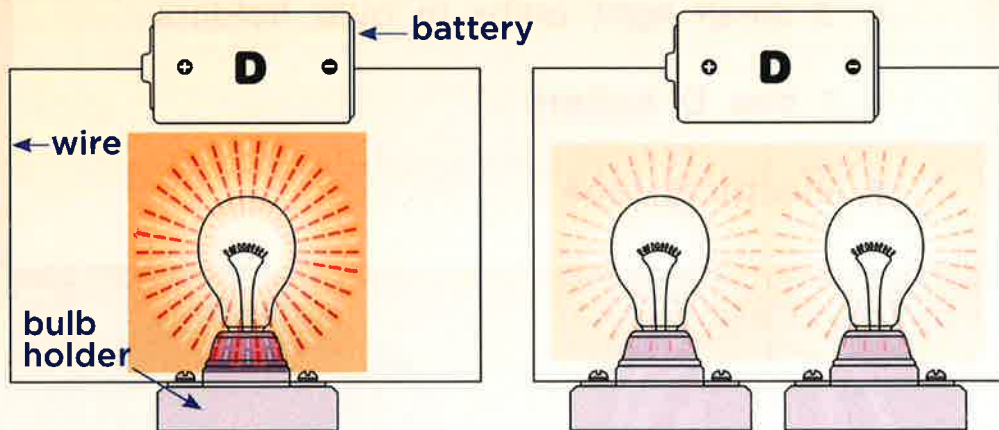
To build an electric circuit, you will need

- 2 feet of insulated copper wire
- a wire stripper
- 3 small light bulbs in bulb holders
- 1 size D battery
- electrical tape



Instructions

- 1 Cut the copper wire into four equal pieces. Use the wire stripper to remove half an inch of plastic coating from the ends of each piece of wire.
- 2 Tape one end of a piece of wire to the negative (-) end of the battery. Tape one end of a second piece of wire to the positive (+) end of the battery.
- 3 Connect the other ends of the two pieces of wire to the screws on the bulb holder. Watch the bulb light up!
- 4 Use another piece of wire to connect a second bulb to the circuit, as shown. Do the same thing to add a third bulb. See what happens.



Make Connections

How does an electric circuit solve a problem?

ESSENTIAL QUESTION

How are the inventors in *The Inventive Lewis Latimer* like someone experimenting with an electric circuit in *The Nature of Light*? **TEXT TO TEXT**

Glossary

circuit a complete pathway that an electric current can flow along (page 16)

drafters people who make plans or drawings (*page 6*)

filament the thin wire inside a light bulb that lights up when heated by an electric current (*page 8*)

patents documents that protect an invention from being copied without the inventor's permission for a certain number of years (*page 6*)

Index

Bell, Alexander Graham,
7, 8

Civil War, 2, 5, 14

Edison, Thomas,
8, 12–14, 16

light bulb, 3, 8–10, 12,
14, 16–18

Maxim, Hiram, 8–10

slavery, 2, 4, 5

United States Electric
Lighting Company, 8, 14

Focus on Science

Purpose To invent something to solve a problem

Procedure

Step 1 Work with a partner. Brainstorm an invention that will solve a problem, such as a machine to wipe the table after you've eaten. Be creative!

Step 2 Create a design for the invention and draw it. Make sure to show different parts of the invention and include details.

Step 3 Label the parts of the invention. Explain what each part does.

Step 4 Present your invention to the class.

Conclusion How would your invention solve a problem? Do you think your invention could work? Why or why not?

Literature Circles

Nonfiction

Thinkmark

The Topic

What is *The Inventive Lewis Latimer* about?

Text Structure

What are two things Lewis Latimer invented?

Vocabulary

What new words did you learn in the text?

What helped you understand what they mean?

Conclusions

What conclusions can you draw about people who are inventors?

Make Connections

What other inventions or inventors do you know about? What problems did they solve?

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