



At Home Learning Resources

Grade 5 - Week 9

Content	Time Suggestions
Reading (Read books, watch books read aloud, listen to a book, complete online learning)	At least 30 minutes daily (Could be about science, social studies, etc)
Writing or Word Work or Vocabulary	20-30 minutes daily
Math	45 minutes daily
Science	25 minutes daily
Social Studies	25 minutes daily
Arts, Physical Education, or Social Emotional Learning	30 minutes daily

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.

Teachers will suggest which parts of the packet need to be completed or teachers may assign alternative tasks.

Grade 5 ELA Week 9

Your child can complete any of the activities in weeks 1-8. These can be found on the Lowell Public Schools website: <https://www.lowell.k12.ma.us/Page/3801> Activities in weeks 7 & 8 are focused on nonfiction reading and writing and may have resources you can continue to use in Week 9.

This week completes the focus on informational or nonfiction reading and writing. Your child should be reading, writing, talking and writing about reading, and exploring new vocabulary each 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 finish working on informational books this week. The resources in this packet are the same as the last two weeks. These resources are charts with examples to help your child write. They are available online in an interactive form with video tutorials here: [Grade 5 Nonfiction Writing Choice Board](#). This writing should last throughout the weeks. This is a great opportunity to explore new topics. 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. As the unit comes to an end, your child should be working to edit their writing and make any final changes through the revision process.

Word Work: Students can work on learning new vocabulary. Students will make inferences and use clues in the text to determine the meaning of new words.

Read the texts. Think about the person and the experience. Whose perspective is being represented? What do you think about that? How would it change from another perspective? What do you wonder?

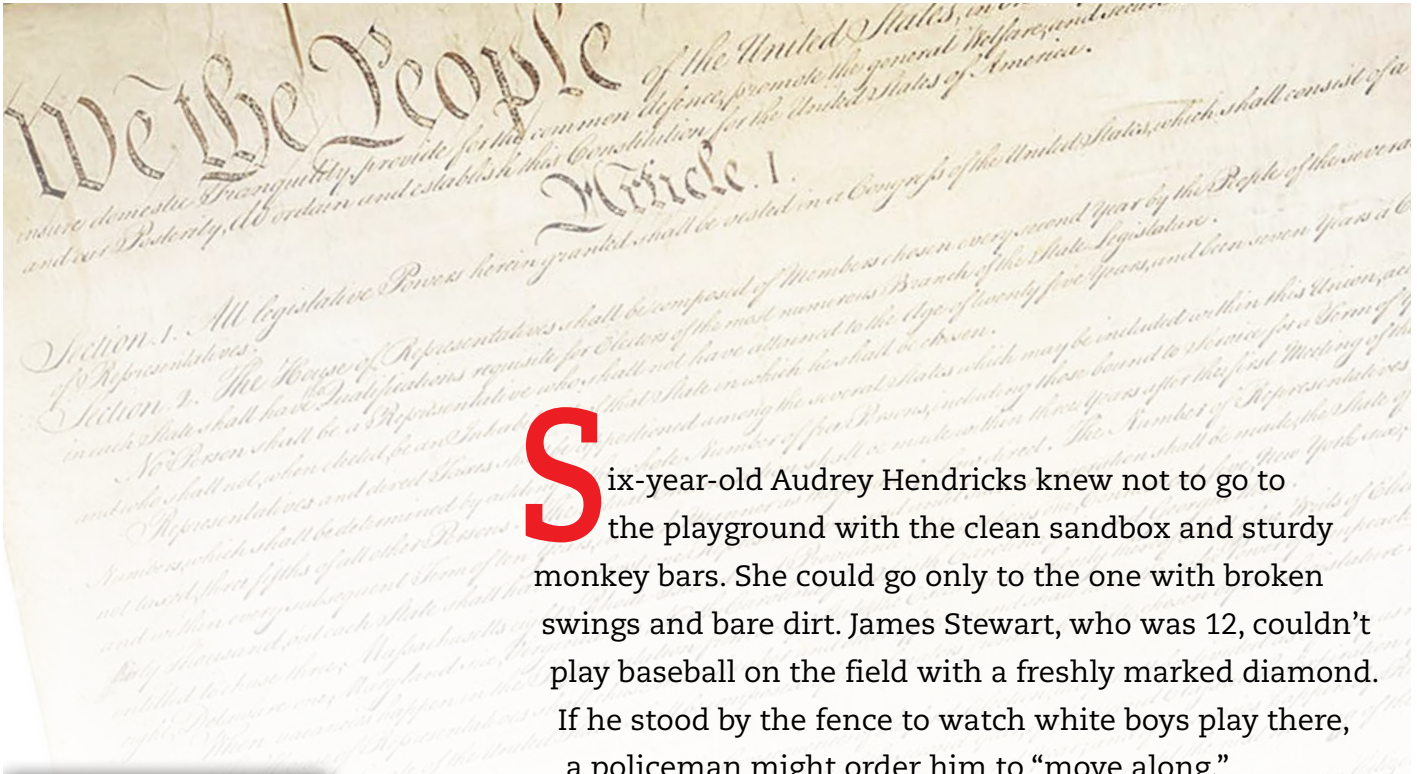
Person/Experience	Point of View/Perspective	Thinking/Response

WHY THE CHILDREN OF BIRMINGHAM MARCHED

In **May of 1963**,
African American children
in Birmingham, Alabama,
helped **CHANGE** the
United States **FOREVER**.

by Cynthia Levinson





Six-year-old Audrey Hendricks knew not to go to the playground with the clean sandbox and sturdy monkey bars. She could go only to the one with broken swings and bare dirt. James Stewart, who was 12, couldn't play baseball on the field with a freshly marked diamond. If he stood by the fence to watch white boys play there, a policeman might order him to "move along."

That's how things were for "Negro" (or black) children in Birmingham, Alabama, and throughout the South before the 1960s. Birmingham's laws stated, "Negroes and whites [were] not to play together." And the city cleaned up the parks only where white kids played.

Audrey, James, and their friends never talked to or even saw white children at school, church, restaurants, or the library. They had to sit in the back of the bus to get downtown, and they had to use dressing rooms, bathrooms, and drinking fountains designated for blacks. Just about every place in Birmingham was **segregated**, or racially separated, except for the sidewalks.

For years, black people tried to change the laws. Audrey's parents sued the city, saying that Audrey had the right to play in any park. In 1962, a judge ordered the city to open the parks to everyone. Instead, Birmingham closed all of them.



Left: © BOB ADELMAN; Background: National Archives/HP



©Robyn Mackenzie/Shutterstock

A Baptist minister named Fred Shuttlesworth also tried to end segregation in the city. Starting in 1956, he held church meetings every Monday. Audrey heard him preach that the police force should hire black people as well as white. Children should go to school together, regardless of race, he said. Black people should be able to sit anywhere on the bus.

Because of Shuttlesworth's views, a white man named "Dynamite" Bob Chambliss bombed his home. Fortunately, Reverend Shuttlesworth and his family were unhurt. But so many black families' houses and churches were bombed that people nicknamed the city "Bombingham."

Finally, in 1963, Shuttlesworth asked Martin Luther King, Jr., for help. King was a minister in Atlanta in those days. He had been a leader in the **civil rights movement** since the 1950s. First, King said, Shuttlesworth and other black ministers should hold meetings at their churches every night.

Soon, thousands of people attended these "mass meetings" to pray, sing, and figure out how to integrate Birmingham. (To integrate means to end segregation.) Children like Audrey and James loved these gatherings. They saw friends, heard King's inspiring sermons, and sang moving civil rights songs with the choir, which included Audrey's big family.

"Churches were filled to the brim!" James said.

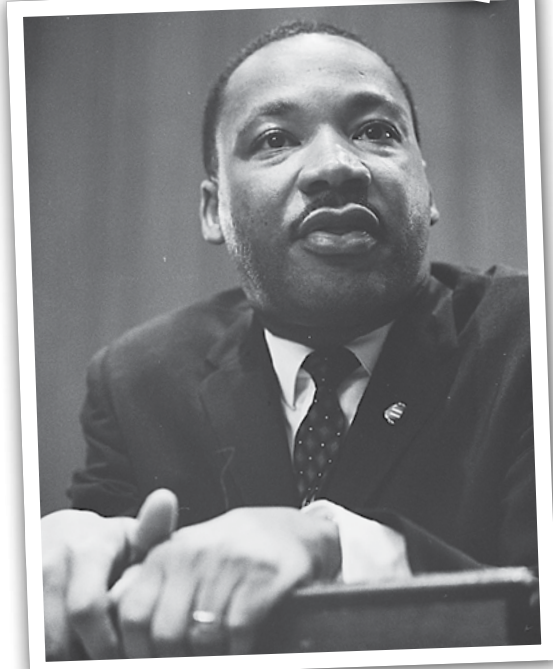
Often the **Ku Klux Klan** planted the **bombs**. The **KKK** was against any kind of integration.



Library of Congress



©Flip Schulke/Corbis



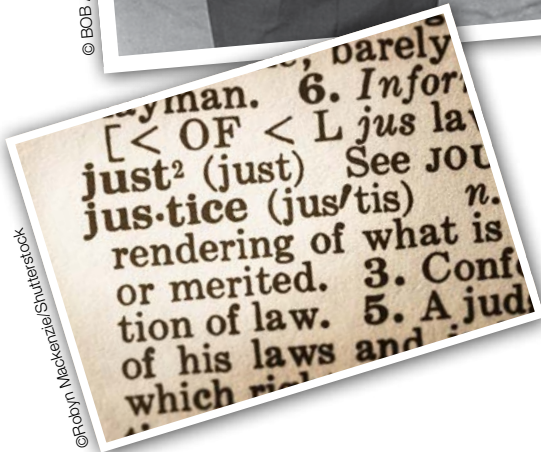
Library of Congress

Civil rights are the rights you have as a citizen. Beginning in the 1950s, black and white Americans worked together to end racial discrimination in the United States. They wanted black Americans to have the civil rights they were guaranteed in the U.S. Constitution. This is called the civil rights movement.

Commissioner "Bull" Connor



© BOB ADELMAN



© Photo 11 March 1963/Steve Shuttlesworth

King also said, "Fill the jails!" What did he mean? He believed that when laws are unfair and unconstitutional (against the Constitution), people have the right to disobey them. If 1,000 people broke the laws and got arrested, they would fill the jails to the brim. Then, Commissioner "Bull" Connor—head of the Birmingham police—would have a big problem. If more and more people disobeyed the law, he wouldn't have room for all of them in jail. And he wouldn't be able to enforce the laws.

King also talked about nonviolence. He believed in the power of peaceful protest. Everyone had to promise not to fight back if policemen beat them.

Through the month of April 1963, King, Shuttlesworth, and others tried to persuade people to protest Birmingham's segregation. They urged protesters to sit-in at lunch counters where blacks were not served. They wanted people to picket segregated stores by carrying signs. They wanted them to

march to City Hall, demanding integration. King himself marched and went to jail to show them he wasn't afraid. But only about 150 people volunteered to protest. Many feared the police or worried about losing their jobs. Plans to end segregation were failing.

Then, another minister, James Bevel, came up with a new plan: Fill the jails with children, he said. Unlike their parents, children wouldn't lose their jobs by protesting.



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Going to jail

Audrey and James decided to protest. On May 2, 1963, they and about 800 other children marched out of 16th Street Baptist Church. And just as predicted, they were arrested. Audrey would spend a whole week in jail.

“Bull” Connor feared that the jails would fill. When more children marched the next day, he told his men to attack them with forceful fire hoses and snarling police dogs. Teenager Arnetta Streeter said, “The water was piercing.” James saw a boy who was badly bitten by a police dog. Around the world, people heard the stories and saw the photographs of what was happening in Birmingham.

During the first week of May, almost 4,000 children marched. Day after day, they were arrested. Children filled Birmingham’s jails.

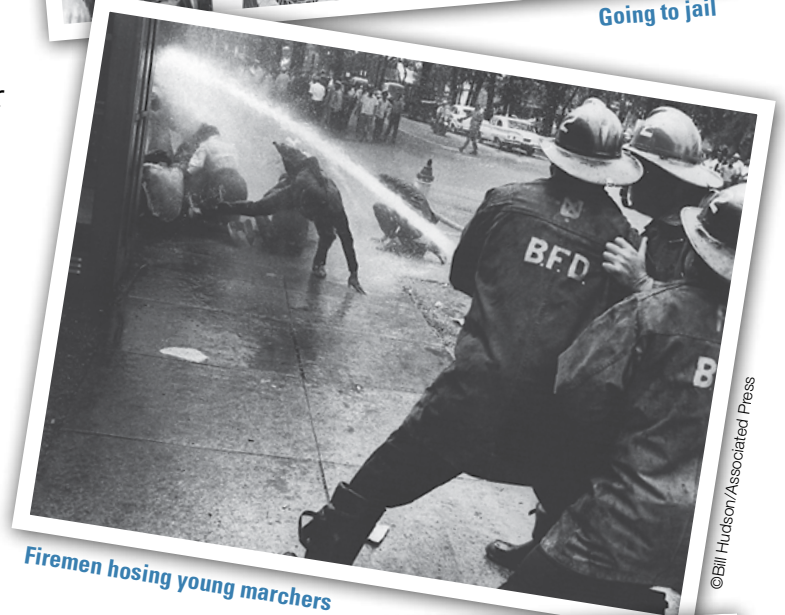
Because “Bull” Connor could not enforce the segregation laws, the city repealed them that July. Audrey, James, and other black kids could play in the reopened parks, sit anywhere on the bus, and eat in any restaurant.

Inspired by their bravery, young people in other cities protested segregation, too. Then, in August 1963, 250,000 adults and children held a March for Jobs and Freedom in Washington, D.C. One of the marchers was James Stewart.



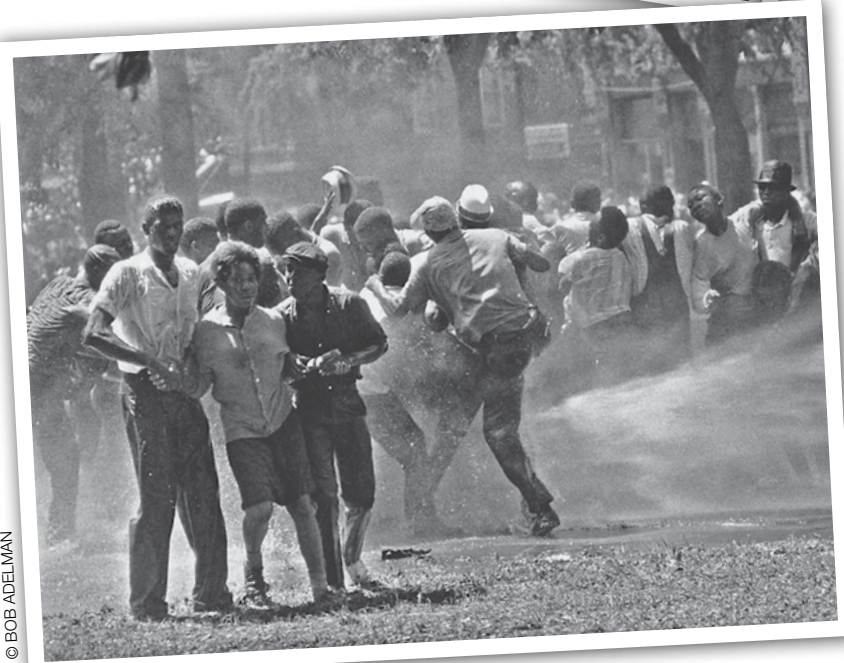
Going to jail

© Bill Hudson/Associated Press



Firemen hosing young marchers

© Bill Hudson/Associated Press



In Kelly Ingram Park

© BOB ADELMAN

LETTER FROM BIRMINGHAM JAIL

by Damian Fagan
illustrated by Lisa Fields

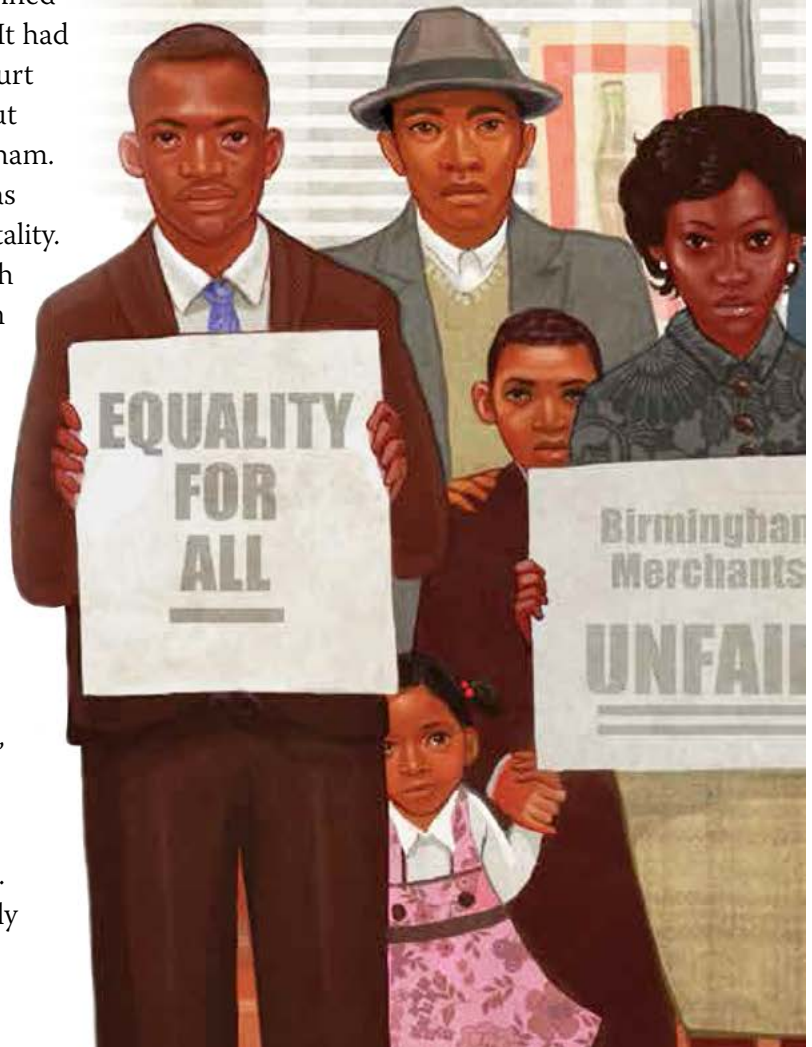
Martin Luther King, Jr., was held in a Birmingham **jail** for eight days in April 1963. While there, he wrote one of the most **important** statements in the **civil rights** movement.

Birmingham, Alabama, 1963.

Although the city's African American community was encouraged to spend their money in stores and restaurants, blacks were seldom hired in these shops. They were banned from white lunch counters and restrooms. It had been nearly 10 years since the Supreme Court ruled that school segregation was illegal. But integration was slow to happen in Birmingham.

The black population of Birmingham was frustrated by racial prejudice and police brutality. Leaders had tried and failed to negotiate with storeowners and the city. Finally, a campaign of nonviolent protests—the Birmingham Campaign—began on April 3, 1963. It was organized by the Alabama Christian Movement for Human Rights and the Southern Christian Leadership Congress. The ministers Fred Shuttlesworth and Martin Luther King, Jr., led nonviolent protests and boycotts of Birmingham businesses.

On April 12, eight white Alabama clergymen wrote a letter entitled “A Call for Unity,” published in a Birmingham newspaper. The piece asked for the protests to stop and condemned outsiders for stirring up trouble. The “outsider” the letter referred to was really King, who had come to Birmingham from Atlanta, Georgia.

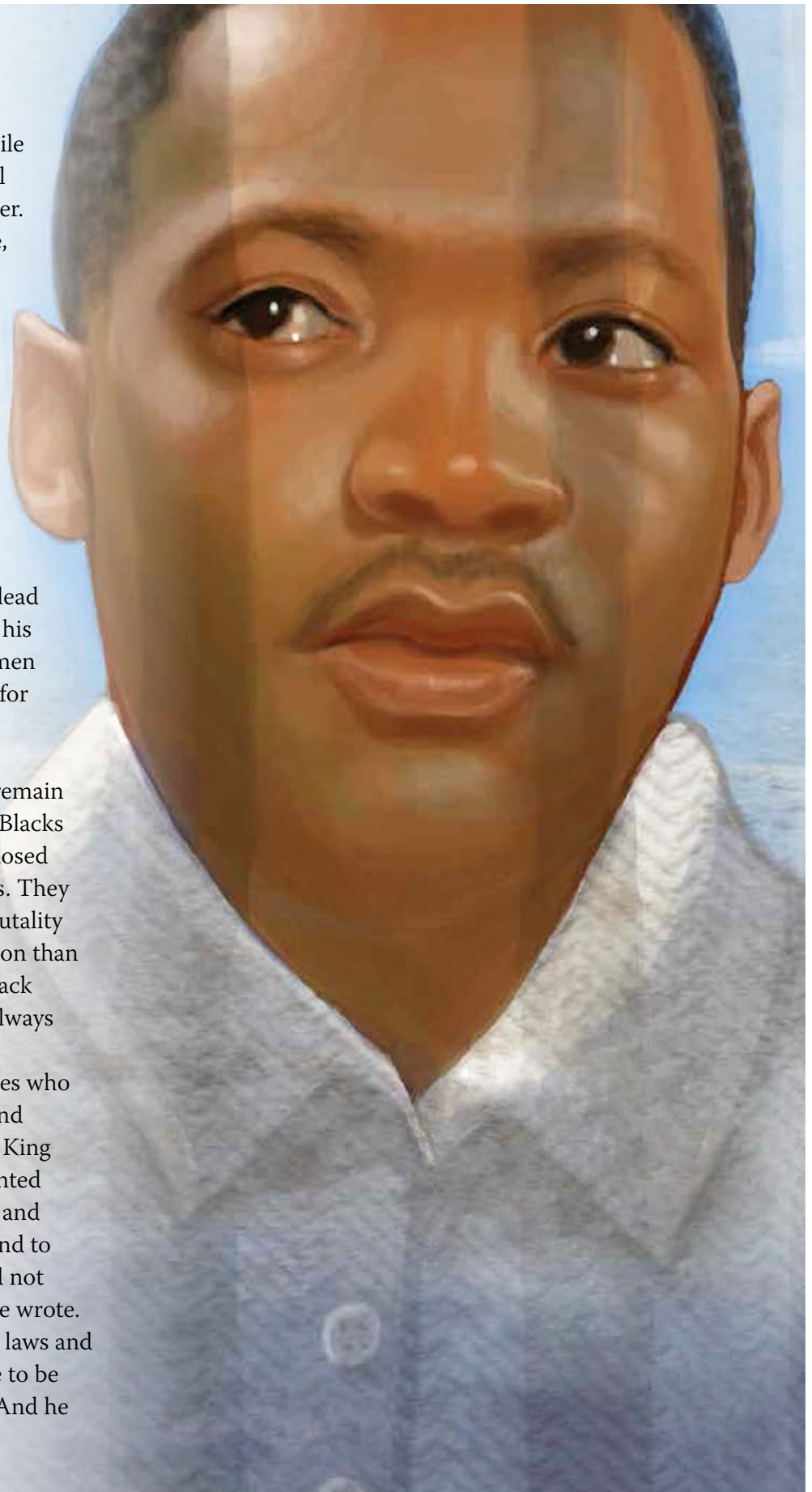


That same day, Birmingham police arrested and jailed King, Shuttlesworth, and others for boycotting and trespassing. While King was in jail, he saw the “Call for Unity” letter in the newspaper. Right away, he wrote a response, which his attorneys smuggled out and brought to the movement’s headquarters. By summertime, people around the country read the letter.

Alabama clergymen had called King an outsider, but he responded, “I am in Birmingham because injustice is here.” The clergymen feared that the demonstrations would lead to violence. But King expressed his disappointment that the clergymen did not have a similar concern “for the conditions that brought the demonstrations into being.”

“Oppressed people cannot remain oppressed forever,” King wrote. Blacks were tired of stores and parks closed to their children and themselves. They were tired of police and mob brutality aimed at them for no other reason than the color of their skin. To the black community, “wait’ has almost always meant ‘never,’” King wrote.

King praised those few whites who supported desegregation laws and who had joined in protests. But King also wrote that he was disappointed that many white priests, rabbis, and ministers failed to act morally and to support desegregation. King did not want violence and bloodshed, he wrote. But he wanted to change unjust laws and allow black Americans a chance to be accepted in their own country. And he didn’t want to wait.



Grades 5 & 6 Nonfiction Writing Choice Board - Visit the online option for an interactive board with tutorials. Use the anchor charts to help you write your own informational book that teaches others.

Research a New Topic...

Plan chapters before you write them.

• Think of the questions people will ask, and answer them.

Writers plan how their book will go!

How to Write a Nonfiction Chapter Book

WRITERS SHARE A VARIETY OF INFORMATION

Organize your information: make a table of contents.

Revise

Edit!

Writing Information Texts Well

The anchor chart features several icons: a lightbulb, a tree, a house, a hand, and five book icons. A small box titled 'Table of Contents' lists: '1st Grade at the Market', '2nd Grade at the Market', '3rd Grade at the Market', '4th Grade at the Market', and '5th Grade at the Market'.

Think of a topic.

Things I could write about:

- Basketball
- Traveling
- Video games
- Cooking
- the environment
- Social Media

Traveling

- Italy
- Cambodia
- Spain
- Portugal

The illustration shows a girl with pigtails thinking, with a lightbulb in a thought bubble above her head.

Research a New Topic...

Build up background knowledge.

Record important facts (exact names, places, numbers)

Capture quotes and, if possible, the context in which they were said.

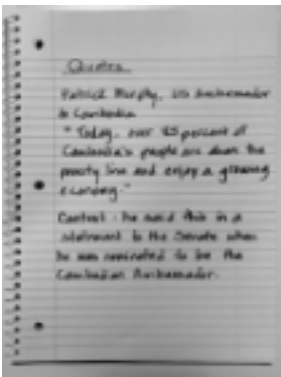
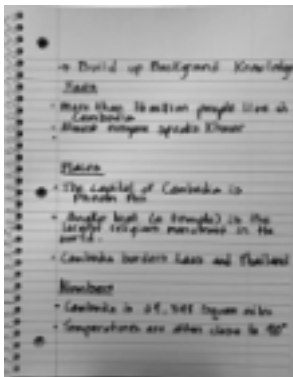


TABLE OF CONTENTS	
ANGKOR WAT	4
LOCATION	6
LANDSCAPE AND CLIMATE	8
WILDLIFE	10
PEOPLE	12
COMMUNITIES	14
CUSTOMS	16
SCHOOL AND WORK	18
PLAY	20
FOOD	22
CELEBRATIONS	24
TIMELINE	26
CAMBODIA FACTS	28
GLOSSARY	30
TO LEARN MORE	32
INDEX	32

Organize your information: make a table of contents.

Contents	
Where is Cambodia?	4
The Land	6
The Tonle Sap	8
Wildlife	10
The People	12
Daily Life	14
Going to School	16
Working	18
Playing	20
Food	22
Holidays	24
Angkor Wat	26
Fast Facts	28
Glossary	30
To Learn More	31
Index	32

Preview texts to identify repeating subtopics.

Synthesize across texts.

COMMON STRUCTURES FOR INFORMATION/NonFICTION TEXTS

- **PROBLEM/SOLUTION**
(CHAPTERS ON THE PROBLEM, CHAPTERS ON THE SOLUTION)
- **CHRONOLOGY**
(WHAT HAPPENED FIRST, NEXT, WHAT COULD HAPPEN IN THE FUTURE)
- **LIST/BOXES AND BULLETS**
(WRITE ABOUT ONE PERSON/PROJECT AFTER ANOTHER, PRESENTING EXAMPLES SEPARATELY)
- **CLASSIFICATION**
(PROPOSE THAT THERE ARE DIFFERENT KINDS OF A THING, DIFFERENT CATEGORIES, THEN DISCUSS EACH)
- **DEFINITION**
(CLAIM THAT SOMETHING IS A WORD (OR A WORD) GIVE EXAMPLES, CONTRAST WITH NON-EXAMPLES, IS THERE YOUR POINT)



Plan chapters before you write them.



More than 16 million people of Cambodia live. Most Cambodians belong to the Khmer ethnic group. The Khmer came to Cambodia from the north over a thousand years ago. The Khmer are a majority group in Cambodia. They mostly live in villages along the Mekong and Tonle Sap rivers. Cambodia is also home to small groups of people from China and Vietnam.



- Think of the questions people will ask, and answer them.



WRITING INFORMATION CHAPTERS

- **WRITE IN PARAGRAPHS.**
- **CITE EXAMPLES FROM THE TEXT, QUOTING PARTS OF THE TEXT.**
- **BE SURE TO GIVE SEVERAL PIECES OF EVIDENCE FOR A POINT.**
- **ONCE YOU INCLUDE EVIDENCE, REFLECT ABOUT THE WAYS THAT EVIDENCE SUPPORTS YOUR POINT.**

According to Kristin Lewis, you've got to be ready for granted!

One example... Another example... Also, ...



Information Writers Combine a Variety of Information

- Explanations
- Descriptions
- Quotations → from other texts or experts
- Vocabulary Words in **bold**
- Definitions • Glossary
- Maps and Photographs
- Text boxes
- Statistics
- Observations
- Lists
- Diagrams With Labels

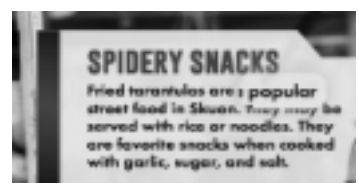
Revise

Define key terms and use technical vocabulary



Western-style clothing is common in Phnom Penh. But older Cambodians tend to dress more **traditionally**. Many wear sarongs, or large rectangular pieces of cloth that are wrapped around the waist.

Provide a surprising fact or statistic



Include a glossary to define key terms.

GLOSSARY

tarantula a very large hairy arachnid insect that lives in the forests of Southeast Asia
snack a small piece of food eaten between meals
street food food sold in a public place, often in a market or at a stall
favorite liked or enjoyed by a particular person or group
cooked prepared by heating with heat, especially in a pot or pan
garlic a plant in the onion family with small, pointed leaves and a bulbous root
salt a white crystalline mineral compound that is used as a preservative and to season food
rice a grain of food that is a staple for many people in Asia
noodles long, thin strips of dough that are boiled and then served with a sauce
sausage a long, thin piece of meat that is often cooked in a pan or over a grill
saucy having a lot of sauce
sausage a long, thin piece of meat that is often cooked in a pan or over a grill
saucy having a lot of sauce

Revise

In Cambodia, people often eat noodles for breakfast. These are called *nom banh chok*. They eat lots of vegetables, too. They eat green beans and cucumbers. The biggest meal of the day is dinner and that is usually rice and soup, sometimes with meat. For snacks, people sometimes eat fried tarantulas with rice or noodles. Or they cook the tarantulas with garlic, sugar, and salt.

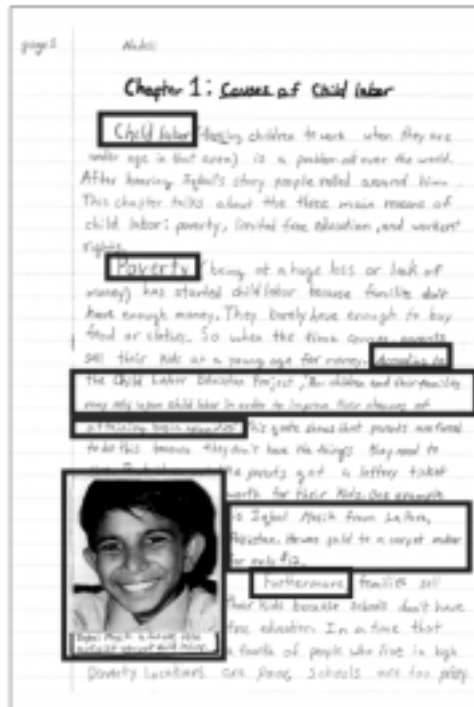
make sure to list



Most Cambodians start the day with *nom banh chok*, or Khmer noodles. This includes rice noodles with a fish gravy and fresh vegetables such as green beans and cucumbers. Dinner is the biggest meal of the day. People usually eat rice and soup. Sometimes, these are combined with vegetables or meat. Dishes like *loc loc*, a stir-fried beef with a sweet sauce, are common.

Writing Information Texts Well

- Build a logical structure, so the progression from one part to the next makes sense.
- Write with a variety of specific, concrete information.
- Glue the bits of information and discussion together with transition words.
- Elaborate with details that bring the text to life (examples, statistics, stories, facts, your subject's own words).
- Make your sentences more complex so you sound more authoritative.
- Use text features purposefully, to teach information in new and special ways.
- Craft introductions that frame each chapter and the whole book.
- Incorporate quotations to:
 - Bring a person to life
 - Build an idea
 - Highlight information
 - Give authority to your writing
- Lead into and out of quotations and introduce the source.

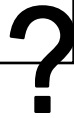


Questions to Ask Yourself as You Edit

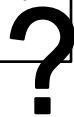
1. Does this make sense? Are any words or parts missing?
2. Are all my sentences complete? Have I checked for run-ons and fragments?
3. Have I used correct capitalization (for names and the beginning of sentences)?
4. Have I used commas and quotation marks for dialogue?
5. Have I checked to see that all my verbs and subjects agree? Are my verbs in the right tense (past, present, future)?
6. Do the words all seem to be spelled right? Do they look right? Have I checked any I'm uncertain of?
7. Have I checked for frequently confused words (*to, too, two; there, their*)?
8. Have I paragraphed and indented?



Today there are more than 16 million people live in Cambodia.



The largest religious site in the world is the temple of Angkor Wat in Siem Reap.



There are many different kinds of interesting animals in Cambodia.



Name _____ Date _____

Word	Inferred Meaning	Clues	Sentence

Name _____

Date _____



EQUIVALENT FRACTIONS SHEET 2

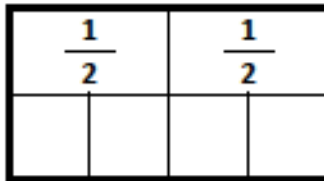
FRACTION STRIPS

Use these fractions strips to help you find the equivalent fractions.

Put the correct fraction into the box and fill in the answers below.

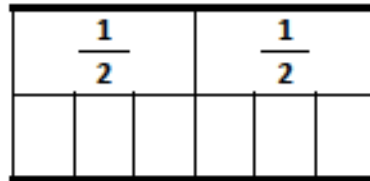


1)



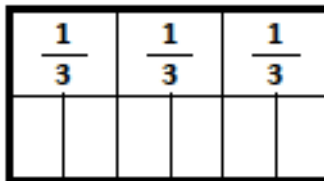
$$\frac{1}{2} = \frac{\quad}{4}$$

2)



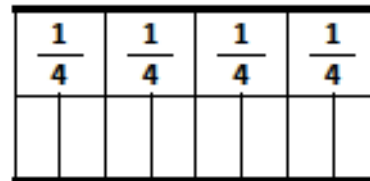
$$\frac{1}{2} = \frac{\quad}{6}$$

3)



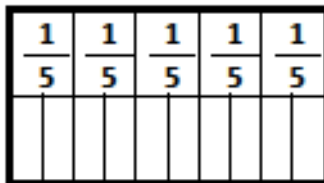
$$\frac{1}{3} = \frac{\quad}{6}$$

4)



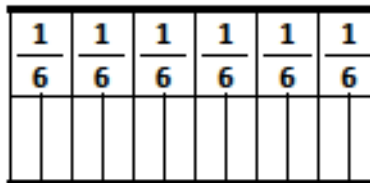
$$\frac{1}{4} = \frac{\quad}{8}$$

5)



$$\frac{1}{5} = \frac{\quad}{10}$$

6)



$$\frac{1}{6} = \frac{\quad}{12}$$

Now use the fraction strips to answer these questions.

7) $\frac{2}{2} = \frac{\quad}{4}$

8) $\frac{3}{4} = \frac{\quad}{8}$

9) $\frac{2}{3} = \frac{\quad}{6}$

10) $\frac{2}{5} = \frac{\quad}{10}$

11) $\frac{3}{3} = \frac{\quad}{6}$

12) $\frac{4}{6} = \frac{\quad}{12}$

13) $\frac{4}{5} = \frac{\quad}{10}$

14) $\frac{5}{6} = \frac{\quad}{12}$

Name: _____

Least Common Multiples

Find the least common multiple (LCM) of 2 and 3.

The multiples of 2 are: **2, 4, 6, 8, 10, 12, 14, 16, 18...**

The multiples of 3 are: **3, 6, 9, 12, 15, 18...**

The common multiples of 2 and 3 are: **6, 12, 18...**

The least common multiple of 2 and 3 is **6**.



Find the LCM of 3 and 4.

The multiples of 3 are: _____, _____, _____, _____, _____, _____, _____, _____, _____, _____ ...

The multiples of 4 are: _____, _____, _____, _____, _____, _____, _____, _____ ...

The common multiples of 3 and 4 are: _____ and _____

The LCM of 3 and 4 is: _____

Find the LCM.

a. 2 and 7

LCM = _____

b. 4 and 10

LCM = _____

c. 4 and 5

LCM = _____

d. 6 and 10

LCM = _____

e. 4 and 12

LCM = _____

f. 6 and 18

LCM = _____



To make punch for the class party, Mrs. Lui mixed $1\frac{1}{3}$ cups orange juice, $\frac{3}{4}$ cup apple juice, $\frac{2}{3}$ cup cranberry juice, and $\frac{3}{4}$ cup lemon-lime soda. Mixed together, how many cups of punch does the recipe make? (Extension: Each serving is 1 cup. How many batches of this recipe does Mrs. Lui need to serve her 20 students?)



Name

Date



SIMPLIFYING FRACTIONS SHEET 2

Write these fractions in their simplest form.

1) $\frac{14}{20} =$

2) $\frac{4}{8} =$

3) $\frac{9}{12} =$

4) $\frac{12}{15} =$

5) $\frac{8}{18} =$

6) $\frac{14}{21} =$

7) $\frac{12}{16} =$

8) $\frac{10}{24} =$

9) $\frac{15}{35} =$

10) $\frac{13}{26} =$

11) $\frac{11}{55} =$

12) $\frac{9}{21} =$

13) $\frac{16}{26} =$

14) $\frac{20}{32} =$

15) $\frac{18}{24} =$

16) $\frac{21}{27} =$

17) $\frac{4}{32} =$

18) $\frac{25}{40} =$

Name: _____

Greatest Common Factor

When you find all the factors of two or more numbers, and you find some factors are the same ("common"), the largest of those common factors is the **Greatest Common Factor (GCF)**.

What are the factors of 12? 1, 2, 3, 4, 6, and 12

What are the factors of 20? 1, 2, 4, 5, 10, and 20

Which are the common factors? 1, 2, and 4

What is the GCF? 4



1. Find the GCF of 8 and 12.

List the factors of 8. _____

List the factors of 12. _____

List the common factors. _____

What is the GCF? _____

2. Find the GCF of 15 and 20.

List the factors of 15. _____

List the factors of 20. _____

List the common factors. _____

What is the GCF? _____

3. Find the GCF of 21 and 35.

List the factors of 21. _____

List the factors of 35. _____

List the common factors. _____

What is the GCF? _____

4. Find the GCF of 6 and 18.

List the factors of 6. _____

List the factors of 18. _____

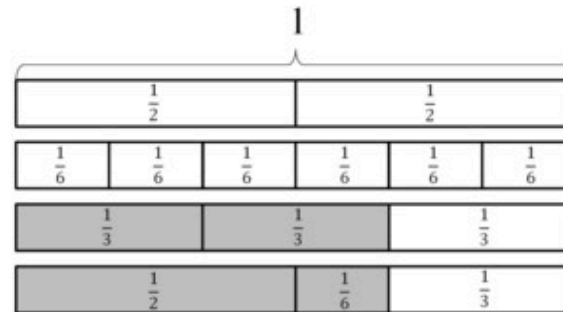
List the common factors. _____

What is the GCF? _____

Egyptian Fractions



Ancient Egyptians used unit fractions, such as $\frac{1}{2}$ and $\frac{1}{3}$, to represent all fractions. For example, they might write the number $\frac{2}{3}$ as $\frac{1}{2} + \frac{1}{6}$.



We often think of $\frac{2}{3}$ as $\frac{1}{3} + \frac{1}{3}$, but the ancient Egyptians would not write it this way because they didn't use the same unit fraction twice.

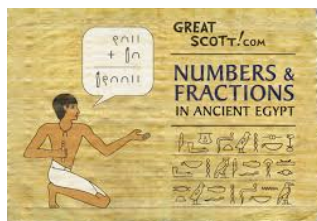
a. Write each of the following Egyptian fractions as a single fraction:

i. $\frac{1}{2} + \frac{1}{3}$,

ii. $\frac{1}{2} + \frac{1}{3} + \frac{1}{5}$,

iii. $\frac{1}{4} + \frac{1}{5} + \frac{1}{12}$.

b. How might the ancient Egyptians have written the fraction we write as $\frac{3}{4}$?





ADDING SUBTRACTING FRACTIONS WITH LIKE DENOMINATORS SHEET 2

Add or subtract the fractions then simplify the answer if needed.

$$1) \frac{4}{7} + \frac{3}{7} = \frac{\quad}{7} =$$

$$2) \frac{3}{10} - \frac{1}{10} = \frac{\quad}{10} = \frac{\quad}{5}$$

$$3) \frac{7}{11} - \frac{3}{11} =$$

$$4) \frac{3}{9} + \frac{3}{9} =$$

$$5) \frac{1}{8} + \frac{3}{8} =$$

$$6) \frac{11}{12} - \frac{2}{12} =$$

$$7) \frac{9}{10} - \frac{4}{10} = \quad =$$

$$8) \frac{3}{12} + \frac{7}{12} =$$

$$9) \frac{7}{15} + \frac{3}{15} = \quad =$$

$$10) \frac{11}{14} - \frac{3}{14} =$$

$$11) \frac{17}{20} - \frac{12}{20} = \quad =$$

$$12) \frac{4}{13} + \frac{8}{13} =$$

$$13) \frac{9}{16} + \frac{5}{16} = \quad =$$

$$14) \frac{23}{50} - \frac{17}{50} =$$

$$15) \frac{13}{21} + \frac{8}{21} = \quad =$$

$$16) \frac{27}{40} - \frac{9}{40} =$$

$$17) \frac{37}{50} - \frac{17}{50} = \quad =$$

$$18) \frac{11}{40} + \frac{17}{40} =$$



COMPARING FRACTIONS RIDDLES 1

Use the clues to find the correct fraction from the 6 possibilities.

CHALLENGE A

- I am more than a half.
- I am less than $\frac{3}{4}$.
- My denominator is odd.

Who am I? _____

A $\frac{2}{3}$	B $\frac{4}{8}$	C $\frac{2}{4}$
D $\frac{3}{4}$	E $\frac{6}{12}$	F $\frac{7}{8}$

CHALLENGE B

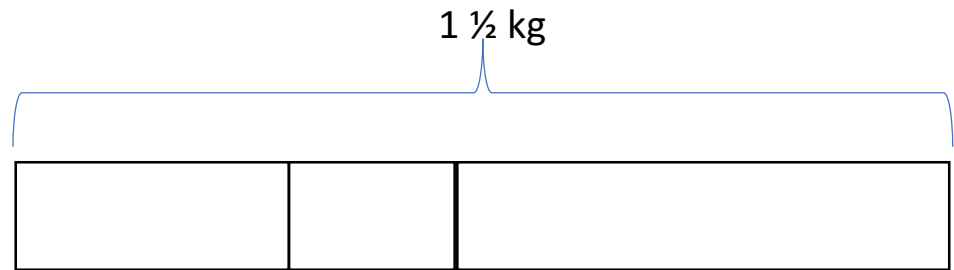
- I am less than $\frac{3}{4}$.
- I am equivalent to a half.
- My numerator is equal to half my denominator.
- I have been split into fewer than 6 parts.

Who am I? _____



Problem #1

For a large order, Mr. Magoo made $\frac{3}{8}$ kg of fudge in his bakery. He then got $\frac{1}{6}$ kg from his sister's bakery. If he needs a total of $1\frac{1}{2}$ kg, how much more fudge does he need to make?

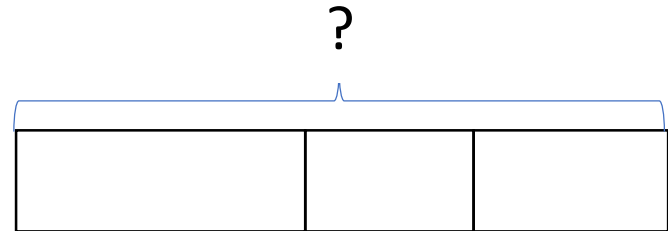




Problem #2

During lunch, Charlie drinks $2\frac{3}{4}$ cups of milk.

Allison drinks $\frac{3}{8}$ cup of milk. Carmen drinks $1\frac{1}{6}$ cups of milk. How much milk do the 3 students drink?



SAFE LANDING

CHALLENGE SHEET



DESIGN squad[®]
Global



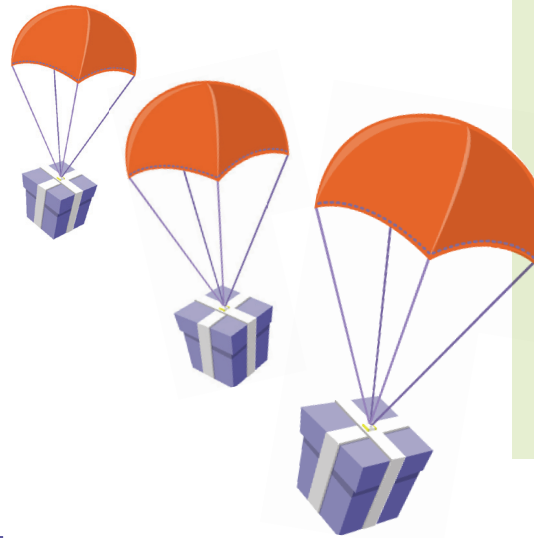
FOR MORE GREAT ACTIVITIES:
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YOUR CHALLENGE

Design and build a way to protect a container so its contents aren't damaged when dropped to the ground.

DEFINE THE NEED

In some situations, the only way for people to get essential supplies like food and medicine is when they are **airdropped** (dropped to the ground from a plane). Can you think of situations when an airdrop might be necessary? The job of an engineer is to make sure that containers of important supplies aren't damaged when dropped from great heights.



MATERIALS (per person)

- 1 or 2 pieces of cardboard
- 1 small paper or plastic cup
- 1 Ping Pong ball
- scissors
- masking tape
- ruler

You'll need some but not all of these materials:

- a plastic shopping bag
- string
- index cards
- plastic straws
- cotton balls
- rubber bands

BRAINSTORM & DESIGN

You are challenged to build and design a way to protect a Ping Pong ball inside of a cup as it's dropped from a height of at least 1 foot/30 centimeters. Think of the Ping Pong ball as medicine or other important supplies and the cup as your container. To succeed:

- the cup must land upright
- the ball can't fall out
- you can't make a cover for the cup!

Here are some ways an engineer might protect a container that's dropped to the ground.

- Slow the fall with a parachute.
- Cushion the fall with a shock absorber (a device that absorbs shocks and jolts, like the impact of something hitting the ground). Springs and cushions are good shock absorbers.

Brainstorm ways you might use a parachute or shock absorber to protect your cup and ball.



BUILD, TEST, EVALUATE, & REDESIGN

- Build your design.
- Test it by dropping your design from a height of 1 foot /30 centimeters.
- Use the ruler to measure the height.
- Observe any problems and redesign if needed.
- Once you're successful, try it from an even greater height.



Problem-Solving Tips

WHAT IF THE CONTAINER . . .

. . . tips over when it drops? Make sure your design is level when you release it. You can also add a cardboard base under the cup to stabilize it. Make sure the cup is centered on the base.

. . . bounces instead of landing softly? Add shock absorbers to cushion the fall.

ENGINEERING AND INVENTION IN ACTION

When Haiti was hit by a massive earthquake in 2010, it was too dangerous for aid workers to bring in supplies. Instead, thousands of pounds of food and clean water were airdropped to the people on the island.

Credit: Sgt James L. Harper, Jr.



An airdrop of humanitarian aid in Haiti.



DESIGN SQUAD GLOBAL is produced by WGBH Boston

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improving lives through invention

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How Ecosystems Work: Energy Flow and Nutrient Cycles

Use the resource below to answer the questions that follow.

<https://www.ck12.org/flx/render/embeddedobject/1497>

1 What do all organisms require?

2 What provides the energy required by the ecosystem?

3 How is energy transferred from one organism to another?

4 How is some of the energy lost?

5 How do nutrients flow through an ecosystem?

6 How does the movement of energy and nutrients differ in ecosystems?

Mission US – An Interactive Way to Learn History



In this interactive game, “For Crown or Colony”, you will be put into the shoes of a printer’s apprentice in 1770 Boston, where you will encounter Patriots, Loyalists, and the Boston Massacre.

Go to <https://mission-us.org> and click on “Register” to set up a free account. (No personal information is required.)

Go through the Prologue (Leaving Home) and Part One (New in Town). Then read through all of the topics on the following page. Choose one of them to write about.

MISSION 1: “For Crown or Colony?”
New in Town (February 21, 1770)
Writing Prompts

Read through all the topics. Then choose one of them to write about. Write the title of the piece at the top of your page. Write in complete sentences. After you are finished, proofread your work for correctness.

PROVING YOURSELF. Nat has a very real task ahead of him. He has to prove himself worthy so that Mr. Edes will accept him as an apprentice. Write about a time you felt you had to prove yourself worthy. What was going on? What was your goal? Who was the person judging you? How did your “trial” or “test” go? How did you feel at various times in the process? What happened after that?

OOPS. There were several times in Part 1 when, as you played the role of Nat and tried to do the right thing, you may have said or done the wrong thing. Sometimes others would overlook it. Other times, you suffered for it. Write about a time in your own life when you intended to say or do the right thing, but the wrong words came out of your mouth. Who was there? What were the circumstances? What did you say? Why did you say that? How did others react to what you said? How did you feel? What happened next?

MAKING UP YOUR MIND. Nat is a newcomer to Boston and he encounters people with very different views on things, yet almost all of what he hears seems to make sense to him at the time. Write about a time in your life when you heard several different opinions or points-of-view about something, and they all sounded right or logical to you. Who were the people? What was it about? Did you try to figure out what was right? How? How did you feel?

PROFIT OR PRINCIPLE? Mr. Edes refuses to place ads in his newspaper that are taken out by people who have opinions about the King with which he disagrees. That means he won't accept their money. He chooses his principles, ideas he values, over profit. What would you do in his place? Why?

MORE ABOUT PROFIT AND PRINCIPLE. Should the owner of a business have the right to refuse the business of customers who disagree with him or her? Think of yourself as the owner of a shoe store. Explain whether you feel you should have the right to refuse a customer's business in each of these instances:

- a. You know that your customer beats his children, and you are against child abuse.
- b. You happen to know that the customer is a racist, and you don't like the views of racists.
- c. You overhear the baseball team your customer supports, and you hate them.
- d. Your customer is a child, and sometimes children come into your store and steal things.
- e. The customer belongs to a religion that has beliefs you don't respect.
- f. The person belongs to a different ethnic group from you, and you don't generally like people from that ethnic group.

In America today, if you own a store, it is against the law for you to refuse a customer because of his/her race, beliefs, gender, age, etc. Considering what you wrote already, do you agree with this law?

DEAR NAT. Imagine you are Nat's mother or father back in Uxbridge. You just received Nat's letter (see the Part 1 vocabulary activity). Now write a letter back to Nat telling him the news in Uxbridge and also responding to some of the things he says in his letter. Use as much of the Day 1 vocabulary as you can, and each time you use a word or term, underline it.

PRIMOGENITURE? The reason Nat had to come to Boston was that it was the custom for the entire estate of the father to pass to the eldest son (a woman's property became her husband's when she married!). Since Nat was the youngest, he stood to inherit nothing. This custom was called *primogeniture* (pry-moh-JEN-uh-chure). Even a daughter who was the oldest child couldn't inherit the property. How do you think this custom got started? Why? Do you think it makes sense? If you were in charge of customs back then, what rules would you make about how property should go from parents to children? Why?

DON'T BUY FROM THESE MEN! This is an ad that appeared in a Boston newspaper in 1770. The text at the top introduces the list of men that follows by saying that they boldly go against the united feelings of the merchants of America because they continue to bring in British goods for sale in America. Notice that Mr. Lillie, Constance's uncle, is on the list.

Imagine yourself as a shoe store owner today. A group of people resents that you import the shoes and sneakers you sell from Asia. They feel that you should only sell things made in America. In addition to not buying in your store, they take out an ad on TV in order to embarrass you, and to let others know what you are doing. Is this fair? Should they have the right to hurt your feelings and your business in this way? Explain your reasoning.

A LIST of the Names of those
who AUDACIOUSLY continue to counteract the UNITED SENTIMENTS of the BODY of Merchants thro'out NORTH-AMERICA; by importing British Goods contrary to the Agreement.

John Bernard,
(In King-Street, almost opposite Vernon's Head.

James McMasters,
(On Treat's Wharf.

Patrick McMasters,
(Opposite the Sign of the Lamb.

John Mein,
(Opposite the White-Harle, and in King-Street.

Nathaniel Rogers,
(Opposite Mr. Henderson's Inches-Store lower End King-Street.

William Jackson,
At the Brazon-Head, Cornhill, near the Town-House.

Theophilus Lillie,
(Near Mr. Pemberton's Meeting-House, North-End.

John Taylor,
(Nearly opposite the Heart and Crown in Cornhill.

Ame & Elizabeth Cummings,
(Opposite the Old Brick Meeting-House, all of Boston.


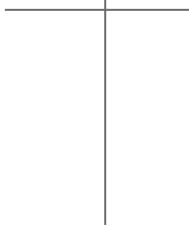

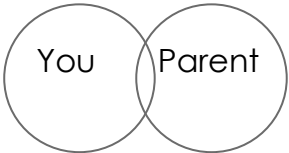
Israel Williams, Esq; & Son,
(Traders in the Town of Hatfield.

And, *Henry Barnes,*
(Trader in the Town of M. 1770.

List of Importers from the *Boston Gazette*, February 12, 1770

ESL at Home 3-5 Weeks 9-10

Use notebook paper to complete these activities. Do one each day!

Monday	Tuesday	Wednesday	Thursday	Friday
<p>Pick a character from a book. Write a message that character would post on social media! Can include pictures!</p> 	<p>Use things in your home to create a kind of store (clothing, furniture, etc.). Write what you will sell and what it will cost!</p> <p>Example: Red t-shirt: \$10 Jeans: \$17.99 Gold necklace: \$4.50</p>	<p>Create a cooking show! Choose something to make with your family! Explain the steps of how to make the dish while you are cooking together!</p>	<p>Make a t-chart of your toys that are heavy and toys that are light.</p> 	<p>Imagine you were an animal (Example: horse, cow, pig, chicken) that lived on a farm where all the animals could talk. Write and draw about your adventure with your animal friends.</p>
Monday	Tuesday	Wednesday	Thursday	Friday
<p>Find items around your house and create an instrument. Come up with a song and write lyrics to it!</p> 	<p>Pick a character from a TV show, movie, or book. Write and describe the character.</p> <p>Example: Batman is wearing black. He is kind because he saves others.</p>	<p>Read a story or chapter aloud to your family, but don't read the end (or what happens next). Have them predict what will happen. Then read it to them and see if they were correct!</p>	<p>Interview your parents or grandparents about what games they played when they were little. Create a venn diagram about how games are similar and different.</p> 	<p>List four things in your home that produce light energy. List four things in your home that produce heat energy. List four things in your home that reflect light.</p>