



At Home Learning Resources

Grade 4 - Week 10

Content	Time Suggestions
Literacy Instruction (Watch a mini lesson, and/or complete online learning)	10-20 minutes daily
Reading (Read books, watch books read aloud, listen to a book)	At least 20 minutes daily (Could be about science, social studies, etc)
Writing or Word Work or Phonics/Vocabulary	20-30 minutes daily
Math	30 minutes daily
Science	45 minutes per week
Social Studies	30 minutes per week
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.

Grade 4 ELA Week 10

All previous activities, as well as other resources can be found on the Lowell Public Schools website:
<https://www.lowell.k12.ma.us/Page/3800>

This week begins a focus on fiction reading and realistic fiction narrative writing. Your child should be reading, writing, talking and writing about reading, and working on exploring new vocabulary each week.

Reading: Students need to read each day. They can read the text included in this packet and/or read any of the fiction 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.

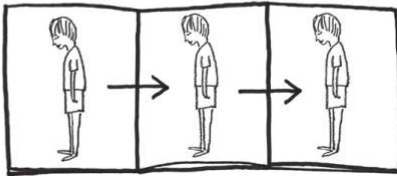
Writing: Students will be working on realistic fiction narratives for the next few weeks. The resources in this packet will be the same for next week for writing as well. These resources are charts with examples to help your child write. They are available online in an interactive form with video tutorials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

Word Work: Students can work on learning new vocabulary about a topic they are interested in. Choose 3 activities on the vocabulary tic-tac-toe board. Learn any words you want or find in your reading.

When reading fictional texts, think about the following. Stop and jot, and respond in writing as you are reading or when you are done.

Grow Ideas about a Character

Use patterns in the character's actions to form ideas.



How do the character's new actions fit with or change those ideas?



Why might the character act like this?



Pay attention to a character's desires and how they are achieved.



Notice anything about a character that the author repeats...
-Why?



Use precisely the right words, image, comparison.



Emergency on the Mountain

By Kerry McGee
2011

Kerry McGee has written for Highlights. In this short story, a young girl must act quickly when there is an emergency on the mountain where she lives. As you read, take notes on Ana's actions during the emergency.

[1] "Ana! *Leche!*" Mama called.

Milk. It was Ana's turn to get it. Ana sighed and shut her first-aid book. Her head hurt from reading in the dim morning light, but how else was she going to learn?

The milk pail banged against Ana's shins as she trudged¹ down the steep slope. Green mountains circled the misty valley. Across the valley was the dusty yellow road that connected this village to the next one eight kilometers away.

Ana tethered² the cow close to the fence. Somewhere below and out of sight lay Santiago, the second-biggest city in the Dominican Republic. And somewhere in Santiago, Ana knew, a group of volunteer doctors were gathering right now to teach medical skills to village nurses, or *cooperadoras*.



"No wonder they don't trust kids. Ana sighed." by Rogerio Sound is used with permission.

[5] *I should be there,* Ana thought. *Leta should have taken me with her.* Hours ago, Ana had heard the roar of a truck in the darkness and realized that her neighbor Leta was beginning the long drive down the mountain to the meeting.

But Leta already knows everything, Ana thought. Leta had been the *cooperadora* since before Ana was born. She'd been delivering babies, pulling teeth, and bandaging wounds in the village for decades.

Fresh milk squirted into the pail. *Leta thinks I'm too young to learn anything important,* Ana thought. *But she's wrong. I am old enough to help.*

Ana lugged the milk back to where Mama was frying eggs in the cooking shelter, then grabbed some bread and wandered up to the road.

Rafi, a village boy, had gotten a donkey, and some kids had gathered around to see it. Rafi was 13, just a little older than Ana, but he was always doing something to get attention. Like now: he was trying to stand on the animal's bare back.

[10] *No wonder they don't trust kids with anything important, Ana thought, sighing.*

She had just turned away when she heard a thud and a few screams.

Rafi lay on the ground nearby. The donkey stood several meters away.

"Rafi!" someone cried.

No answer. The donkey swished its tail.

[15] "Get Leta," someone said.

Ana shook her head. "Leta's gone to the city."

The other kids seemed frozen in place.

Ana ran to where Rafi was lying. She dropped to her knees on the dusty road. "Rafi! Can you hear me?"

Rafi moaned and flopped his head back and forth in pain.

[20] Ana saw that one of his legs was crooked, bent a little sideways between the knee and the ankle. A broken leg!

She remembered what the first-aid book had said about broken legs: *If there is no ambulance, stabilize the bone before moving the victim.*

There certainly wouldn't be any ambulance here. Ana looked back up the road. The other kids were still standing there, watching.

"Vin!" Ana called to one of the boys. "Go get Rafi's mama, and find someone with a truck." She turned to the others. "Give me your shirts. We need something to tie his leg with."

As Vin took off running, the others huddled³ closer.

[25] Rafi whimpered, and Ana said gently, "Rafi, you'll need to go down the mountain for a cast. But first, I'm going to tie your leg so it doesn't move around. Can you wiggle your toes?"

Rafi nodded, his eyes squeezed shut. Ana pulled off his shoe and watched him wiggle his toes.

Ana found a strong, straight stick, which she'd use to keep his leg steady. She carefully wrapped the boys' shirts around his leg and the stick, winding down from his knee to his ankle. Rafi opened his eyes and cringed.

"I know it hurts," Ana said. "But this will hold it still until you get to the hospital."

When Ana was done, she looked up and saw Rafi's mama watching from a few meters away. Behind her was a neighbor in a pickup truck. When Ana stepped away, Rafi's mama ran over and held Rafi's face in her hands.

[30] "*Gracias, Ana,*" she said.

Rafi's mama and neighbor lifted Rafi into the truck, then drove down the dusty hillside toward the hospital.

The next day, Leta came to Ana's home. "I heard what you did," Leta said. "You kept your head in an emergency. That's an important skill."

Ana blushed. "I was afraid..."

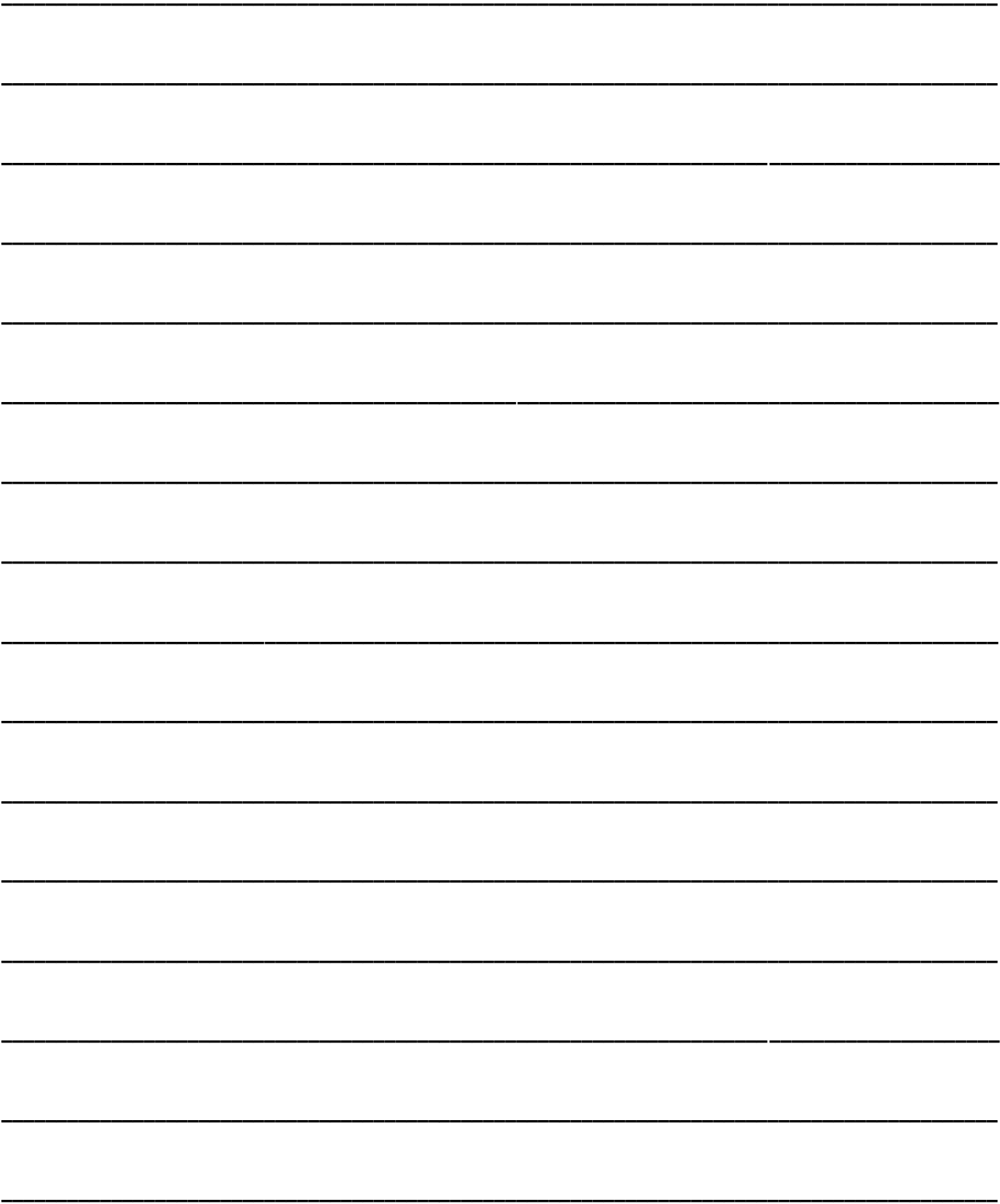
Leta shook her head. "It's OK for a *cooperadora* to be afraid, as long as she keeps her head. Now, listen. The volunteer doctors are coming here tomorrow with vaccines.⁴ We need some extra hands. Can you help?"

[35] Ana didn't hesitate. "I would love to."


"Come early, then. There is a lot to learn."

Ana smiled. "I'll bring my first-aid book."


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Grade 4 Realistic Fiction Writing Choice Board - Visit the online option for an interactive board with tutorials. Use the anchor charts to help you write your own realistic fiction story.



Getting Ideas for Fiction






Plan Your Fiction Story

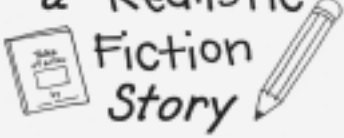


Developing Characters


Develop a strong

- >story idea 
- >character(s) 
- >setting 


How to Write a Realistic Fiction Story




Study ways other authors make stories better - try some!



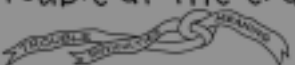
Draft possible story arcs. Revise until it feels just right.




Draft scene by scene, only using summary when needed.




Create trouble in the story, resolving that trouble at the end.



Edit!





How to Find Ideas for Fiction




Getting Ideas for Fiction


Elexa


- Observe the world or reread entries. Mine your notebook for story ideas.



- Ask, "What books do I wish existed in the world?"



Let this question lead you to invent a character with traits, struggles, actions.


- Think about an issue that is important to you and create a character who struggles with that issue.



Elexa is a 11 year old girl that wants to be the head ~~club~~ leader, but her best friend also wants to, so will she do it in the cost of her friendship. She has noticed that the boy that was following her around (Mark) is now following Elexa, what will happen next?

Things are really hard right now for a boy named Marquis. He really loves his big brother, but lately it seems like Erick doesn't hang out with him very much. And, Mom seems really worried-stressed all the time. One night, Marquis heard Erick and Mom talking about money and they seemed upset. Erick was saying he could work more at the grocery store, and he told Mom not to worry. But Mom wants Erick to work on his school work, too. Marquis is worried about both of them. What will happen to the family?

Plan Your Fiction Story

Beginning The Conflict Starts

I sat in reading class, and started to doodle all over my reader notebook. Even when the class was reading out loud, it's like all I could hear was the ticks & ticks, each second, lifeless thingy-thingy. Closer together, I tell him! I think to myself. My seat class is with Mr. Man. I think I hope I am strong enough to tell him.

On my way to the lunch room, I was so busy getting what I'd want that I didn't realize I had bumped into Max. He said, I'm so sorry. Elex, I tell him I don't need any one helping, or even following me.

Middle The Conflict Gets Worse

He came closer! Lexie whispered "OH NO," then I shouted, "RUN!" We tried to run as fast as we could, but we knew that wasn't fast. We ran for the door, trying to slip into class without being noticed by a teacher or just a hall monitor.

End Story Resolution

I had bumped into Max, jumping on his back, he said sorry. Elex, I'm not here to pick up my books. He ran then back to where I was. I think, but you know that following around things are a sign. I looked into the eyes that had once been jelly that had now turned to eyes filled with tears. With no human remain I could tell he is sad and I feel the same exact way. Why?

I thought back to when I was the new kid, I didn't do any good, exact things, but I don't want to hurt to make friends. I thought to myself, how could I do this to him? But the deal is done. I have a sign, too sad to look, that I looked back and realized it was the only person left in the hall way.

Develop Characters by Thinking about Their:

- collections
- favorite clothes
- special places on earth
- treasures
- worries
- quirks
- secrets
- relatives
- ways of walking, talking, and gesturing
- rituals for waking up, going to sleep
- meals and mealtimes
- best friends
- phone calls

Developing Characters

Elexa	
inside	outside
wants to be a leader	brown hair, curly
Cares about her friends	good at math
Worries a lot but doesn't tell anyone	talks a lot
misses her grandma	has a dog
	collects seaglass
	Favorite color is green

Develop a strong

- > story idea
- > character(s)
- > setting

Advice For Developing a Character

- Start with whatever you've decided matters to you about your character.
- Put together a character so that all the parts fit together into a coherent person.
- Reread often, asking, "Do these different things make sense within one person? Do they fit together in a believable way? Are these traits here for a reason?"

I ~~thump~~ thump down the stairs into the kitchen "Hurry, we are having tomato soup tonight." "Mom, I hate tomato soup!" I yelled.

inside	outside
wants to be a leader	brun hair, curly
care about her friends	just math talks a lot
worries a lot but doesn't tell anyone	has a dog
misses her grandma	collects seaglass
	favorite color is green

Draft possible story arcs.
Revise until it feels just right.

Story Arc

Draft #1

Draft #2

Draft #3

Draft scene by scene, only using summary when needed.


Draft

Once there lived a little girl. Her name was Elizabeth and she lived with her mom and dad. Elizabeth was in first grade. One day her class went on a trip. The class had to sit in a circle. When the class had been there for about half an hour or so, the lady that was working with Elizabeth and her class brought out a snake. Elizabeth, who was terrified of snakes, started wiggling at the snake. She heard the lady tell the class that they may touch the snake. Elizabeth got even more terrified when the lady with the snake reached her. Elizabeth felt her hand touch the snake. Oh how frightened she was! Poor Elizabeth thought the snake would bite her hand off or poison her! Little Elizabeth was delighted when she didn't feel the snake harming her. The rest of Elizabeth's trip was a lot of fun. When Elizabeth got home, she told her parents all about the trip. She also exaggerated the snake part a bit, but her parents knew that

Rewrite

Elizabeth felt her hand touch the long, mean-looking snake. Its gleaming, coal-black eyes sparkled in the light as it stared at Elizabeth, not even blinking. The snake kept sticking its blood-red, forked tongue out of its mouth. Elizabeth felt cool or something like scales under her fingers. Elizabeth knew that it was the snake's rough skin. She wasn't surprised that it was rough because she thought that snakes are rough and so is their skin. Elizabeth noticed the pattern on the snake's back. How she liked it! It was also the only thing she liked about the snake: both its gleaming and sparkling diamonds on the same kind of coal-black surface.

A Storyteller's Voice Shows, Not Tells.

It . . . 

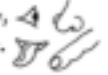
••• describes actions that took place.



••• uses dialogue.



••• describes what we saw, smelled, tasted, or felt.



••• describes images around the storyteller.



Study ways other authors make stories better - try some!



Setting Description

The Wolves Go to Birmingham - 1963
By Christopher Paul Curtis

It was one of those super-duper cold Saturdays. One of those days that when you breathed out your breath kind of hung frozen in the air like a hunk of smoke and you could walk along and look exactly like a train blowing out big, fat, white puffs of smoke.

It was so cold that if you were stupid enough to go outside your eyes would automatically blink a thousand times all by themselves, probably so the juice inside of them wouldn't freeze up.

Question

The Tail of Emily Windsnap
by Liz Kessler

Can you keep a secret? Everybody has secrets, of course, but mine's different, and it's kind of weird.

Action

Dead End in Norvelt
by Jack Gantos

School was finally out and I was standing on a picnic table in our backyard getting ready for a great summer vacation when my mom walked up to me and ruined it.

Dialogue

On My Honor
by Marion Dane Barba

"Climb the Starved Rock Bluffs? You've gotta be kidding!" Joel's spine tingled at the mere thought of trying to scale the sheer river bluffs in the state park. He looked at Tony square in the eye. "Somebody got killed last year trying to do that! Don't you remember?"

Tony shrugged, popped a wheelie on his battered BMX, spun in place.



Studying Mentor Texts for Our Own Writing

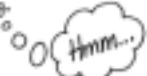
Select a part of the story that works for you.



Name specifically what the author did on the page.



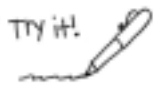
Suppose why the author did this particular thing.



Look at your own writing and find places where it would help the text to try something similar.



TRY IT!



Create trouble in the story,
resolving that trouble at the end.



Tammy Revises her Ending

Ending 1
Then I looked closely
Something was missing.
"Ranger, where is your coat?"
"Ranger gave me a shy
smile and a quick wink.
I have no idea."

Ending 2
I looked down the trail, and
there in the distance, I saw
a brown speck darting towards
me. "Is that Ranger?" Why
call I saw his striped
coat?" I wondered.
I looked again. "Yes, it's
Ranger." He stopped at my
feet, gave me a shy smile and
a quick wink. "Ranger, where is
your coat?"
"What coat?"

Key Questions Fiction
Writers Consider in
Revising Endings

- Can the reader see evidence of the main character's evolution?



- Does my ending make sense or come out of nowhere?



- Are the loose ends tied up? Have I answered the reader's key questions?



- Have I revealed everything I need to for the story's purposes?



Editing Checklist

- Read for sense and missing words.
- Edit for punctuation.
- Check for capital letters at the beginning of new sentences, when using proper nouns, or when giving someone's title.
- Check that known, high-frequency words are spelled correctly.
- Read work aloud to check for fragments and run-on sentences.
- Check every word to be sure it is spelled correctly.

the morning
Norm "if he could go to the park"
Norm said yes. When they
got there, Spike was playing tag with
a friend. The friend hid in the bushes.
So Spike could not find him. Spike
looked all around the park. But he
did not find him. He just realized his
mother was not home on the bench.
He walked in the city to look for
his mom. He walked up and the
street. He saw a stop
sign. The cop said "look out for
here with out a parent." "I
can't find my parent. I will
find her for you. Not I will
find her for you." Spike ran
towards the street. It is orange.
Spike did not stop, he just
ran. He ran the street and
the street. He ran the street
to go back to the park.
When he got out of the park,
he saw a green car and a car
was riding down the street.
The kid almost got hit
by a car because he was
just standing there.

Vocabulary Word Tic Tac Toe

Choose three activities to complete using your vocabulary words.

Definition Drawing

Draw a picture or scene of the definition of at least 5 of your vocabulary words. Label each drawing with the word.

Crossword Puzzle

Create a crossword puzzle using grid paper. Have a classmate solve it.

Synonyms and Antonyms

Use a thesaurus to find a synonym and antonym for 10 of your words. Use the recording sheet to write your answers.

Sentences

Use each one of your words in a sentence. It must be used correctly, and the sentence should help someone understand the meaning of the word.

Flash Cards

Make one flash card for each of your words. Write the word on one side and the definition on the other side. Use the cards to quiz yourself.

Comic Strip

Create a comic strip using at least 5 of your words in the conversations between your characters.

Prefix - Root - Suffix

Find as many words as you can with the same prefix, root, or suffix as your vocabulary words. Use the recording sheet to write your answers.

Quiz

Make a 10 question quiz using 10 different vocabulary words. Questions can be multiple choice, fill-in-the-blank, or matching.

Story Words

Write a story using at least 5 of your words. Include lots of detail and descriptive words.

Patterns with Place Value
Adding and Subtracting 1,000 , 10,000 , or 100,000

1. Fill in the blank for each equation.

a. $10,000 + 60,080 = \underline{\hspace{2cm}}$

b. $34,167 - 10,000 = \underline{\hspace{2cm}}$

c. $899,000 + 1,000 = \underline{\hspace{2cm}}$

d. $297,351 - 100,000 = \underline{\hspace{2cm}}$

e. $432,050 - 1,000 = \underline{\hspace{2cm}}$

f. $10,000 + 58,018 = \underline{\hspace{2cm}}$

2. Fill in the empty boxes to complete the patterns.

a.

	54,756	64,756			94,756
--	--------	--------	--	--	--------

Explain in pictures, numbers, or words how you found your answers.

250,510		270,510		290,510	
---------	--	---------	--	---------	--

q Explain in pictures, numbers, or words how you found your answers.

c.

324,369	323,369		321,369		
---------	---------	--	---------	--	--

Explain in pictures, numbers, or words how you found your answers.

Comparing and ordering numbers

1. Compare each pair of numbers by writing the symbols $<$, $>$, and $=$ in the circle.

a. 42,061 204,981

b. $300,000 + 90,000 + 8,000 + 100$ four hundred two thousand, five hundred six

c. 8 hundred thousands 7 thousands 9 hundreds 3 tens 807,930

d. 4 hundreds 6 ten thousands 9 ones 6 ten thousands 5 hundreds 9 ones

e. 805,107 eight hundred five thousand, seven hundred one

f. $50,000 + 300,000 + 9000 + 8,000$ six hundred five thousand, nine hundred eight

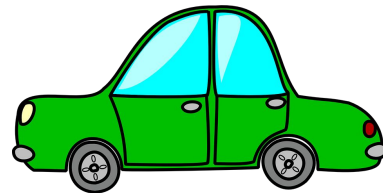
2. Arrange these numbers from **least** to **greatest**: 8,550 5,080 850 5,008 8,505

3. Arrange these numbers from **least** to **greatest**: 72,345 52,073 72,350 57,345 7,305

4. Arrange these numbers from **greatest** to **least**: 426,000 406,200 640,020 46,600

5. Arrange these numbers from **greatest** to **least**: 673,426 406,763 633,720 406,723

Martin's car had 86,456 miles on it. Of that distance, Martin's wife drove 24,901 miles, and his son drove 7,997 miles. Martin drove the rest.



Part A: About how many miles did Martin drive? Round each value to estimate.

Part B: Exactly how many miles did Martin drive?

Part C: Assess the reasonableness of your answer in (b). Use your estimate from (a) to explain.

Greatest Sum

Directions: Using the digits 1 to 9 at most one time each, fill in the boxes to make the greatest sum.

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

+				
<hr/>				

First attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

Second attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

Third attempt

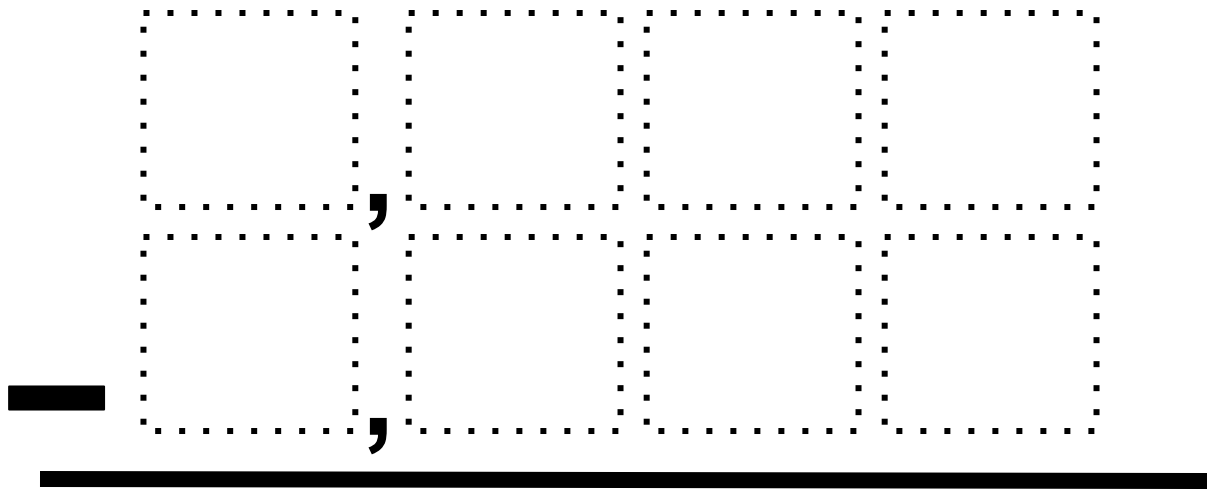
What did you learn from this attempt? How will your strategy change on your next attempt?

Fourth attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

Greatest Difference

Directions: Using the digits 1 to 9 at most one time each, fill in the boxes to make the greatest difference.



First attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

Second attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

Third attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

Fourth attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

How many little ketchup bottles will the big bottle fill up?

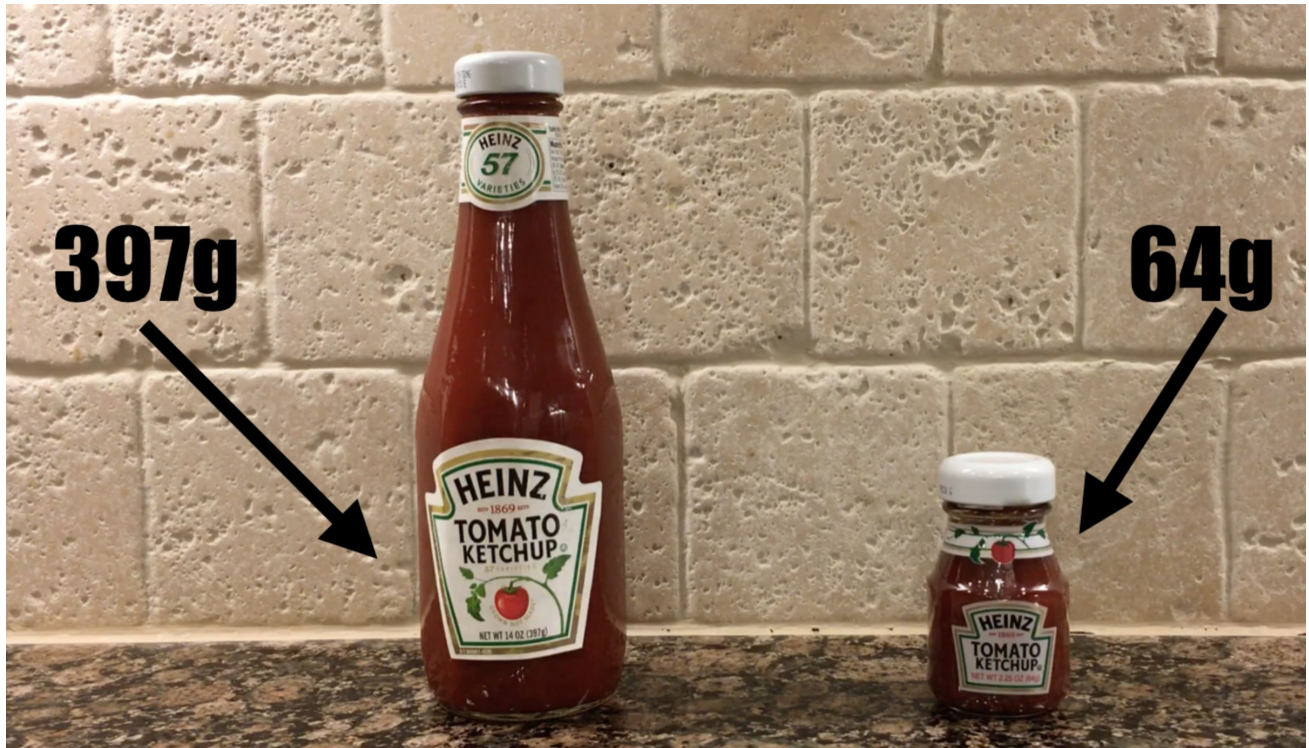


What is your estimate?

What is an estimate that is too high? Why?

What is an estimate that is too low? Why?

How many little ketchup bottles will the big bottle fill up?



Solve:

A

Number Correct: _____

Divide by 10

1.	$20 \div 10 =$	
2.	$30 \div 10 =$	
3.	$40 \div 10 =$	
4.	$80 \div 10 =$	
5.	$50 \div 10 =$	
6.	$90 \div 10 =$	
7.	$70 \div 10 =$	
8.	$60 \div 10 =$	
9.	$10 \div 10 =$	
10.	$100 \div 10 =$	
11.	$20 \div 10 =$	
12.	$120 \div 10 =$	
13.	$50 \div 10 =$	
14.	$150 \div 10 =$	
15.	$80 \div 10 =$	
16.	$180 \div 10 =$	
17.	$280 \div 10 =$	
18.	$380 \div 10 =$	
19.	$680 \div 10 =$	
20.	$640 \div 10 =$	
21.	$870 \div 10 =$	
22.	$430 \div 10 =$	

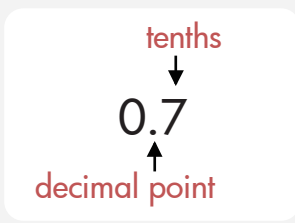
23.	$50 \div 10 =$	
24.	$850 \div 10 =$	
25.	$1,850 \div 10 =$	
26.	$70 \div 10 =$	
27.	$270 \div 10 =$	
28.	$4,270 \div 10 =$	
29.	$90 \div 10 =$	
30.	$590 \div 10 =$	
31.	$7,590 \div 10 =$	
32.	$120 \div 10 =$	
33.	$1,200 \div 10 =$	
34.	$2,000 \div 10 =$	
35.	$240 \div 10 =$	
36.	$2,400 \div 10 =$	
37.	$4,000 \div 10 =$	
38.	$690 \div 10 =$	
39.	$6,900 \div 10 =$	
40.	$9,000 \div 10 =$	
41.	$940 \div 10 =$	
42.	$5,280 \div 10 =$	
43.	$6,700 \div 10 =$	
44.	$7,000 \div 10 =$	

Important Notice:

Please check in with your teachers to find out if they would like you to complete some of the optional work in the next section.

Tenths Place

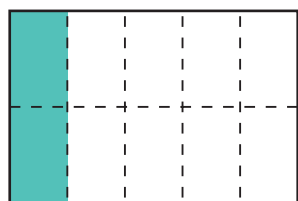
A **decimal** is a number that contains a decimal point. Digits can be placed to the left and right of a decimal point to show numbers greater than one or less than one. The decimal point is placed to the right of the ones place.



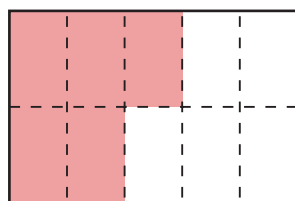
The first digit to the right of the decimal point is in the **tenths place**.

The decimal **0.7** is equal to **seven tenths**, or $\frac{7}{10}$.

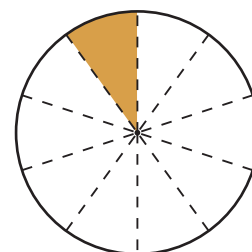
What fraction of the shape has been colored?
Write the fraction and its equivalent **decimal**.



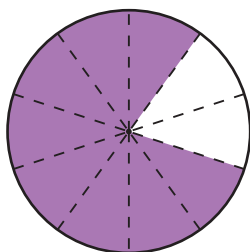
$$\frac{2}{10} = 0.2$$



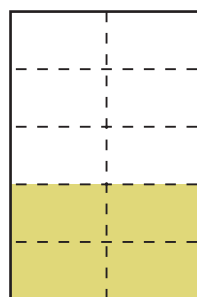
$$\frac{\square}{\square} = \square$$



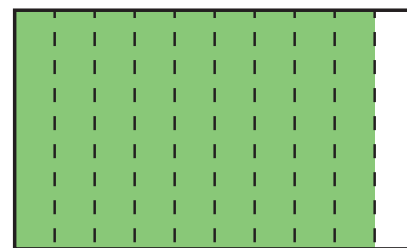
$$\frac{\square}{\square} = \square$$



$$\frac{\square}{\square} = \square$$



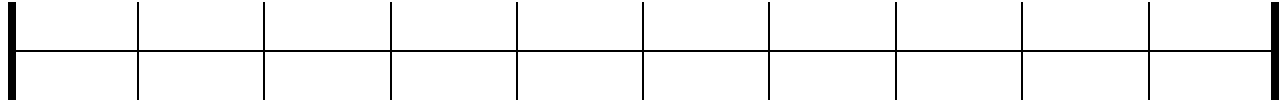
$$\frac{\square}{\square} = \square$$



$$\frac{\square}{\square} = \square$$

Exploring Tenths in Fraction Form and Decimal Form

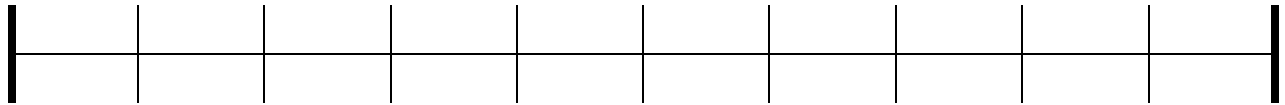
1. Shade the first 8 units of the tape diagram. Count by tenths to label the number line using a fraction and a decimal for each point. Circle the decimal that represents the shaded part.



0 0.1 0.2 _____ _____ _____ _____ _____ _____ _____ 1

$\frac{1}{10}$ $\frac{2}{10}$

2. Shade the first 4 units of the tape diagram. Count by tenths to label the number line using a fraction and a decimal for each point. Circle the decimal that represents the shaded part.



0 0.1 _____ _____ _____ _____ _____ _____ _____ 1

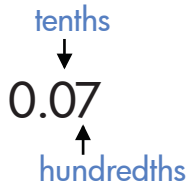
$\frac{1}{10}$

3. Match each amount expressed in unit form to its equivalent fraction and decimal forms.

3 tenths	$\frac{5}{10}$	0.2
5 tenths	$\frac{9}{10}$	0.6
6 tenths	$\frac{2}{10}$	0.3
9 tenths	$\frac{3}{10}$	0.5
2 tenths	$\frac{6}{10}$	0.9

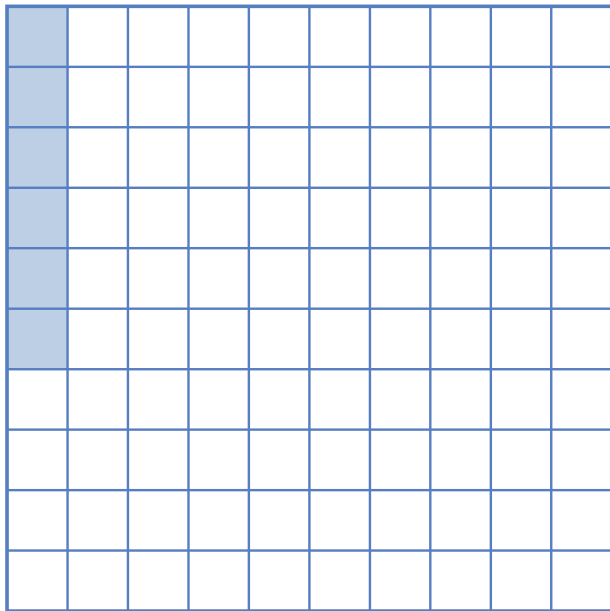
A line connects the box "3 tenths" to the box $\frac{3}{10}$. Another line connects the box $\frac{3}{10}$ to the box 0.3.

Hundredths Place

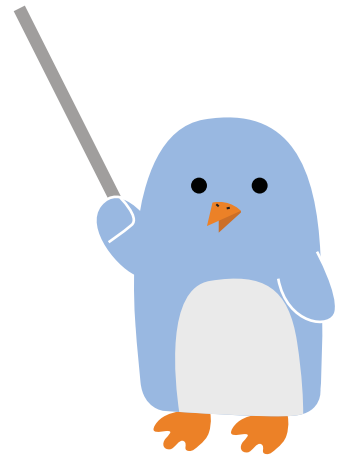


The second digit to the right of the decimal point is in the **hundredths place**.

The decimal **0.07** is equal to **seven hundredths**, or $\frac{7}{100}$.



The square has 100 equal parts.
What part of the square is shaded?
Write the answer as a decimal.



Convert each fraction to a decimal.

$$\frac{4}{100} = \underline{0.04}$$

$$\frac{9}{100} = \underline{\quad}$$

$$\frac{5}{100} = \underline{\quad}$$

$$\frac{8}{100} = \underline{\quad}$$

$$\frac{1}{100} = \underline{\quad}$$

$$\frac{2}{100} = \underline{\quad}$$

$$\frac{7}{100} = \underline{\quad}$$

$$\frac{6}{100} = \underline{\quad}$$

Convert each decimal to a fraction.

$$0.05 = \frac{\square}{\square}$$

$$0.01 = \frac{\square}{\square}$$

$$0.08 = \frac{\square}{\square}$$

$$0.03 = \frac{\square}{\square}$$

Exploring tenths and hundredths

Find the equivalent fraction. Shade the area models to show the equivalency. Record it as a decimal in the place value chart.

a.

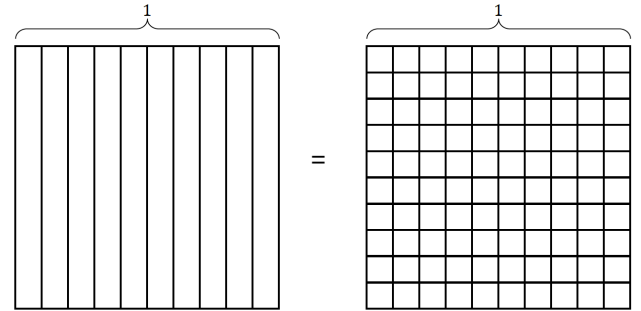
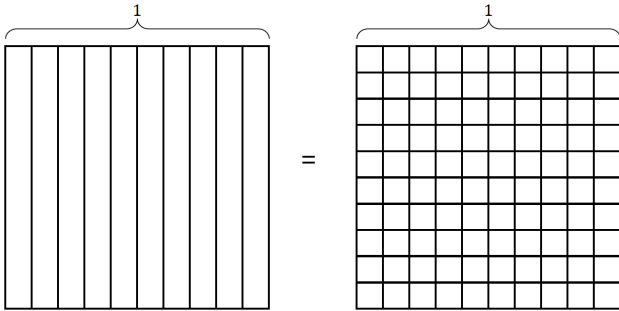
$$\frac{6}{10} = \frac{\quad}{100} =$$

ones	tenths	hundredths

b.

$$\frac{3}{10} = \frac{\quad}{100} =$$

ones	tenths	hundredths



c.

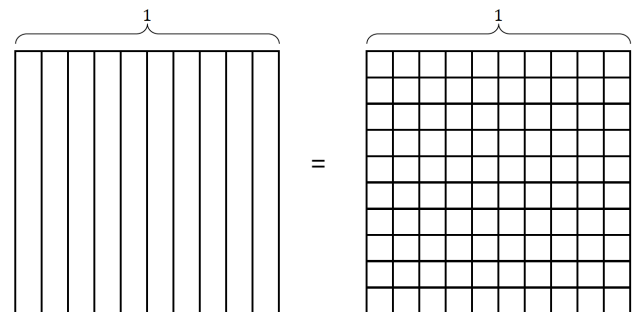
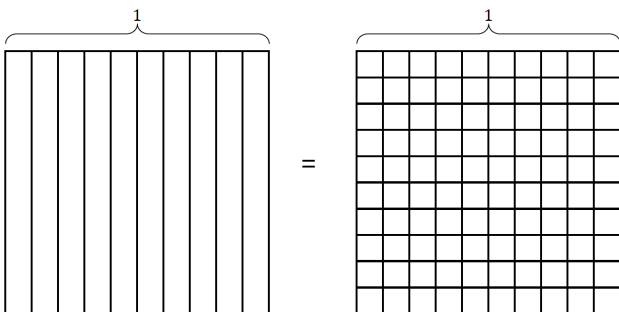
$$\frac{8}{10} = \frac{\quad}{100} =$$

ones	tenths	hundredths

d.

$$\frac{2}{10} = \frac{\quad}{100} =$$

ones	tenths	hundredths



OPTIONAL

Yesterday, Ben's plant grew 0.5 centimeter. Today it grew another $\frac{8}{10}$ centimeter. How many centimeters did Ben's plant grow in 2 days?

Solve. Explain your thinking with pictures or words:



Look at how you solved. Could you have solved it in a different way? How are decimals and fractions related?

OPTIONAL

Adding Parts of a Whole

Directions: Using the digits 1 to 9 at most one time each, make the following statement true.

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

$$0.\square + 0.\square + 0.\square = 1$$

First attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

Second attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

Third attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

Fourth attempt

What did you learn from this attempt? How will your strategy change on your next attempt?

A

Number Correct: _____

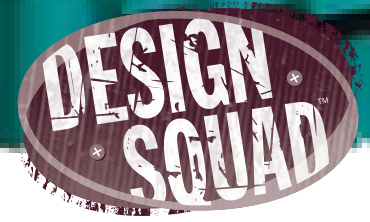
Write Fractions and Decimals

1.	$\frac{2}{10} =$	.
2.	$\frac{3}{10} =$	.
3.	$\frac{4}{10} =$	.
4.	$\frac{8}{10} =$	.
5.	$\frac{6}{10} =$	.
6.	$0.1 =$	$\frac{\quad}{10}$
7.	$0.2 =$	$\frac{\quad}{10}$
8.	$0.3 =$	$\frac{\quad}{10}$
9.	$0.7 =$	$\frac{\quad}{10}$
10.	$0.5 =$	$\frac{\quad}{10}$
11.	$\frac{5}{10} =$	.
12.	$0.8 =$	$\frac{\quad}{10}$
13.	$\frac{7}{10} =$	.
14.	$0.4 =$	$\frac{\quad}{10}$
15.	$\frac{9}{10} =$	.
16.	$\frac{10}{10} =$	.
17.	$\frac{11}{10} =$	.
18.	$\frac{12}{10} =$	.
19.	$\frac{15}{10} =$	.
20.	$\frac{25}{10} =$	.
21.	$\frac{45}{10} =$	.
22.	$\frac{38}{10} =$	.

23.	$1 =$	$\frac{\quad}{10}$
24.	$2 =$	$\frac{\quad}{10}$
25.	$5 =$	$\frac{\quad}{10}$
26.	$4 =$	$\frac{\quad}{10}$
27.	$4.1 =$	$\frac{\quad}{10}$
28.	$4.2 =$	$\frac{\quad}{10}$
29.	$4.6 =$	$\frac{\quad}{10}$
30.	$2.6 =$	$\frac{\quad}{10}$
31.	$3.6 =$	$\frac{\quad}{10}$
32.	$3.4 =$	$\frac{\quad}{10}$
33.	$2.3 =$	$\frac{\quad}{10}$
34.	$4\frac{3}{10} =$	.
35.	$\frac{20}{10} =$	.
36.	$1.8 =$	$\frac{\quad}{10}$
37.	$3\frac{4}{10} =$	.
38.	$\frac{50}{10} =$	.
39.	$4.7 =$	$\frac{\quad}{10}$
40.	$2\frac{8}{10} =$	.
41.	$\frac{30}{10} =$	.
42.	$3.2 =$	$\frac{\quad}{10}$
43.	$\frac{20}{10} =$	.
44.	$2.1 =$	$\frac{\quad}{10}$

CHALLENGE 1

KICKING MACHINE



YOUR CHALLENGE

Build a machine that kicks a Ping-Pong ball into a cup lying on its side 12 inches away. Use either (1) a pendulum, (2) a rubber band, or (3) a combination of the two to do this.

MATERIALS*

- Balls (Ping-Pong and golf)
- Corrugated cardboard
- Paper clips
- Paper cups
- Popsicle sticks
- Rubber bands
- Ruler
- Scissors
- String
- Tape (masking or duct)
- Thin metal wire (optional)
- Wooden skewers

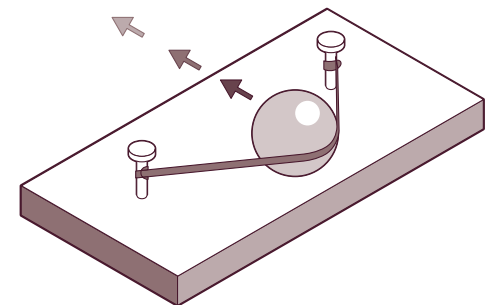
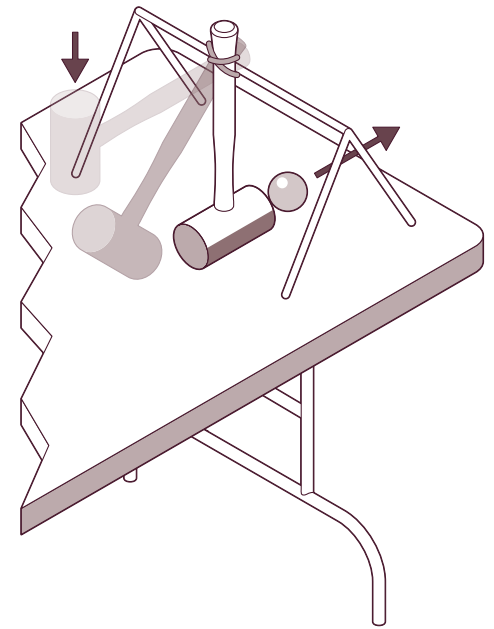
* For information on where to get these materials, see page 6 or visit pbskidsgo.org/designsquad/engineers.

BRAINSTORM AND DESIGN

Before you begin designing your machine, brainstorm answers to the following questions. Record and sketch your ideas in your design notebook.

- Will my machine use a pendulum or rubber band (or a combination) to send a ball into the cup?
- How will I stop the machine from launching the ball before I'm ready to release it?
- How will the machine be triggered when I'm ready to launch the ball?
- How will I make sure the pendulum or rubber band launches the ball straight enough and with the right amount of force so it goes into the cup?

Think about how to create different release points for the pendulum or rubber band so you have more control over a launched ball. Also consider how to determine the right amount of energy to store up before making your shot.



BUILD, TEST, AND REDESIGN

When you lift a pendulum or stretch a rubber band, you increase its potential energy. **Potential energy** is energy that is stored. When you release the pendulum or rubber band, its potential energy is turned into **kinetic energy**, the energy of motion. Many machines have this in common—they turn potential energy (e.g., fuel, electricity, muscle power, springs, or weights) into kinetic energy that can be used to do a task (in this case, launch a ball).

Once you've built your machine, test it. Lay a cup on its side 12 inches away and see if you can get the ball in. When we made our machine, we had to debug some problems. For example, the ball bumped into parts of our machine and went in unexpected directions, and the stretched rubber band bent our frame. It was also hard to get the pendulum and rubber band to stay pulled back. If things like this happen to you, figure out a way to fix the problem so that your machine works every time.

When you lift a pendulum or stretch a rubber band, you increase its potential energy.

KICKING MACHINE

TAKE IT TO THE NEXT LEVEL

- Move the cup so it's 24 inches from your kicking machine.
- Build a ramp and see if you can shoot the ball up and over the ramp.
- Build a machine that can launch two balls at once or that can launch balls at different speeds.

INSIDE THE ENGINEERING

SWEET DELIVERY

Building machines that make tasty—and sometimes far-out—ice cream flavors is just the kind of challenge Pete Gosselin loves. He's head engineer for Ben and Jerry's® ice cream. Pete's the guy who designs the machines that make different flavors and mix the right amounts of candy, filling, or swirl into each container. And you thought getting a ball into a cup was a challenge! Some days, it's, "We want every container to have half a pint of cherry ice cream with cherries and fudge flakes and half a pint of chocolate ice cream with fudge brownies. Now on the brownie side, make sure there are at least three but no more than four brownie bites. Oh and by the way, these babies need to roll off the production line at 200 pints a minute." To make some flavors, Pete tinkers with the factory's existing machines. For others, he has to design special machines. His biggest challenge: to design a machine that makes a flavor with a core of fudge and caramel wedged between chocolate and caramel ice cream. The way Pete sees it, "The world is full of problems and possibilities. And technology has a huge influence on making our lives better, whether the challenge is addressing global warming or making delicious food."

Ben and Jerry's is a registered trademark of Ben & Jerry's Homemade Holdings, Inc.

TAKE IT ONLINE

Want to make life easier? See how simple machines bring mechanical advantage to the rescue! Download *Not So Simple Machines* from Intel's *Design and Discovery* hands-on engineering program.

➤ intel.com/education/designanddiscovery



Photo: Mika Tomozak

The *Design Squad* cast made a kicking machine for a professional soccer player. This soccer-ball launcher uses electric drills to spin wheelbarrow wheels to send soccer balls flying.



Watch *Design Squad* on PBS (check local listings). Download more challenges at pbskids.org/designsquad.



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Take-Home Science

Observing the Great Outdoors

Bird Characteristics

Location: In your backyard or at a local park.

Challenge: Determine how unique external structures help the plants and animals survive in their environment.

Who: You and any other person who will help (like brothers, sisters, parents, or friends).

1. What to look for: Three different living things in your neighborhood. Include at least one plant.

2. What to record: Complete the table on the next page to record specific external structures, or characteristics, you observe on each plant or animal. Predict what you think the function of that structure is and then research to find the answer.

3. What to report: Bring your completed chart to class. Be prepared to share what you have discovered during your observations and research.



Credit: Calin Tatu/Shutterstock.com

Vocabulary

Characteristic: A feature that helps identify a person or thing.

External structure: A part found on the outside of an organism's body that aids in survival.

Function: A purpose or job; how something works or operates.

Did You Know?

■ All living things have unique structures and characteristics that help them grow and survive in their environment. Color is one of these characteristics.

■ Many animal species have clear differences between males and females. In birds, males are often much more colorful than females. This vibrant coloring is used to attract a mate for reproduction. Female birds are usually brown or gray. Why might female birds be brown rather than colorful, like the males? Hint: Think about the nest.

■ Even plants use color to their advantage. The petals on many flowers are vibrant in color. The plants make these colorful flowers to attract pollinators like bees, butterflies, birds, and other animals. These animals stop by different flowers to take a drink of nectar and spread pollen in the process. This leads to plant reproduction.


Take-Home Science

Name _____

Date _____

Observing the Great Outdoors

Observe the plants and animals in your backyard or neighborhood park. Look carefully at their external structures. What do you think these special structures are for? Record your observations and predictions in the chart below, then use books or the Internet to find out if you were right. Make sure you include at least one structure of a plant! Bring the completed chart to school to share with your classmates. An example has been done for you.

Living thing	Picture of living thing	External structure	I think the purpose is...	Research
Hummingbird		Long beak	To drink out of flowers	Hummingbirds drink nectar from tubular flowers and need a long beak to reach the nectar.

Slave States, Free States

Name: _____

Slavery: The Deep Divide

The United States may have started out with only thirteen states, but it soon began to grow. As each new state joined the union, people wanted to know if it would be a slave state or a free state. The issue of slavery was slowly driving a wedge through the United States. Abolitionists believed slavery was wrong. They wanted to abolish slavery completely, or at least keep it from spreading by making sure all new states would be free states. Most slave owners relied on slave labor to run their businesses. They believed they would lose their wealth without slavery, and they wanted new states to allow it. Each side was determined not to let the other side get any advantage.



Balancing Act

There was one thing keeping the slavery issue in check: balance in government. This was achieved by always making sure there was an equal number of free and slave states. This balance was critical! Each state got to send two people to the U.S. Senate. An equal number of senators from free and slave states meant that neither side had an advantage for getting laws passed. By 1819, there was a delicate balance of 11 free states and 11 slave states. But then, Missouri—a territory that allowed slavery—applied for statehood.

A Different Kind of “Equality”

Missouri’s application triggered an uproar. If that state were admitted, the balance would be gone. After months of debate, the **Missouri Compromise** saved the day: Missouri would be admitted as a slave state, and a new state—Maine—would be created as a free state. To avoid future problems, they also mapped out which parts of the rest of America’s territory could become slave and free states. For almost 30 years, America kept the balance as more states joined the Union. But by 1850, the U.S. had grown all the way to the Pacific coast. This new land was not subject to the Missouri Compromise, and debate over whether slavery would be allowed in the new territory threatened to tear the nation apart.

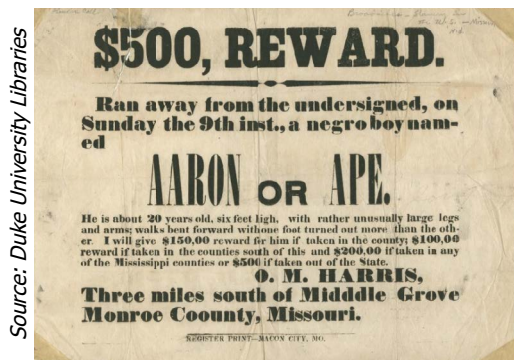


Buying and selling people was dehumanizing and degrading, but that alone didn't stop it.

Source: Duke University Libraries

When “Compromise” Means Going Backward

When California applied for statehood in 1849, there were 15 slave states and 15 free states. California wanted to be a free state, but—you guessed it—that would upset the balance. The Compromise of 1850 tried to satisfy both sides. California would become a free state, but the new territories of Utah and New Mexico would decide for themselves whether to allow slavery. As part of the bargain, slave trading would become illegal in Washington, D.C., the nation’s largest slave market. But a new **Fugitive Slave Act** penalized citizens for helping runaway slaves and required them to cooperate with the process of returning slaves to their owners. All of this kept the nation together... for the moment.



Source: Duke University Libraries

Slave owners put runaway slave notices in papers across the country.

Slave States, Free States

Name: _____

A. 11 Slave, 11 Free. Below is the list of free and slave states before 1820. On the Missouri Compromise map, write an S on each slave state and an F on each free state:

<u>Slave States</u>	<u>Free States</u>
Alabama	Connecticut
Delaware	Illinois
Georgia	Indiana
Kentucky	Massachusetts
Louisiana	New Hampshire
Maryland	New Jersey
Mississippi	New York
North Carolina	Ohio
South Carolina	Pennsylvania
Tennessee	Rhode Island
Virginia	Vermont

B. One of Each. The Missouri Compromise let Missouri in as a slave state and Maine in as a free state. On the Missouri Compromise map...

1. Shade Missouri and Maine with diagonal lines like this:



2. Label Missouri and Maine with S and F like you did for the other states.

C. Not Above That Line! The Missouri Compromise also drew an imaginary line across U.S. territory at the 36° 30' line of latitude. New states north of that line would not allow slavery. New states below the line would allow slavery. On the Missouri Compromise map...

1. Find the 36° 30' line of latitude. It is half way between the 36° and 37° lines. (Hint: It's also the border between Tennessee and Kentucky!) Pay attention—lines of latitude follow a slight curve!
2. Starting at the Mississippi River, draw a dotted line *westward* to show the 36° 30' line, like this:
 ● ● ● ● ● ● ● ● ● ●
3. STOP when you reach the border of land controlled by Spain.

D. Another Compromise? On the Compromise of 1850 map...

1. Draw crisscross lines through California like this:
2. Draw a big question mark on each of the two territories that got to decide the slavery issue for themselves.
3. Find Washington, D.C. and draw a dollar sign with a line through it like this:
4. By 1850, there were six new states:

New Slave States
Arkansas
Florida
Texas

New Free States
Iowa
Michigan
Wisconsin

Write F on ALL the free states (including the ones you marked on the other map). Do not mark on the slave states.

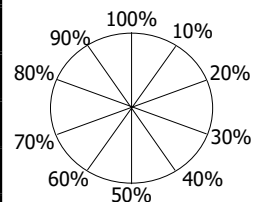
E. The Slave Population. On the Compromise of 1850 map, draw a tiny pie chart on each slave state to show the percent of that state's population that was enslaved. (The circles are already there for you.)

State	Total Population	Percent Enslaved
Alabama	771,623	51%
Arkansas	209,897	22%
Delaware	73,459	3%
D.C.	51,687	7%
Florida	87,450	27%
Georgia	906,186	55%
Kentucky	982,405	22%
Louisiana	517,762	47%
Maryland	583,034	15%
Mississippi	536,526	58%
Missouri	612,044	14%
N. Carolina	869,039	33%
S. Carolina	668,512	58%
Tennessee	1,004,767	24%
Texas	212,612	27%
Virginia	1,421,661	33%

Example:



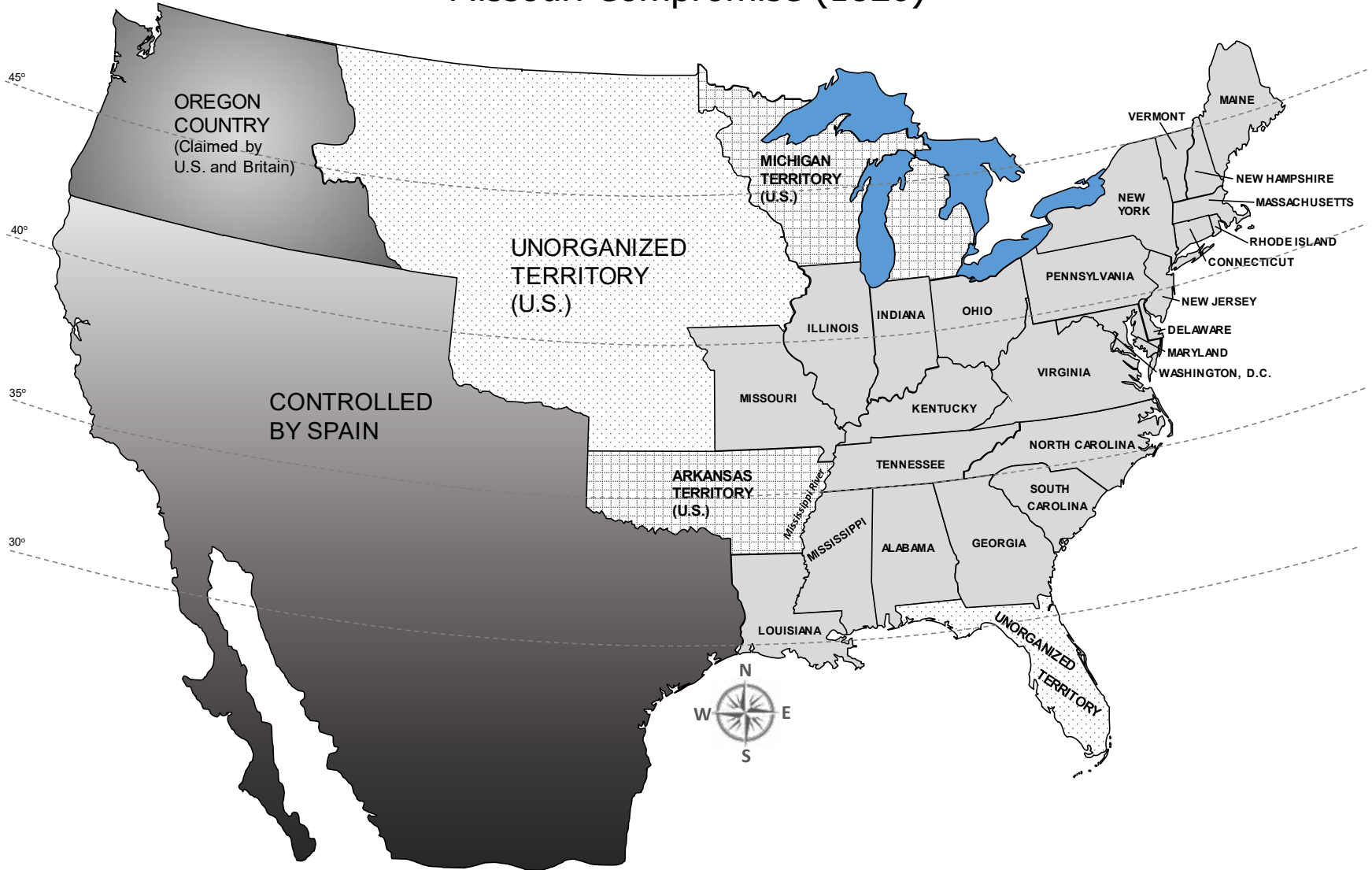
Use this circle to help you figure out how much of each chart to shade:



Just estimate the amount to shade in the best you can.

Map Activity

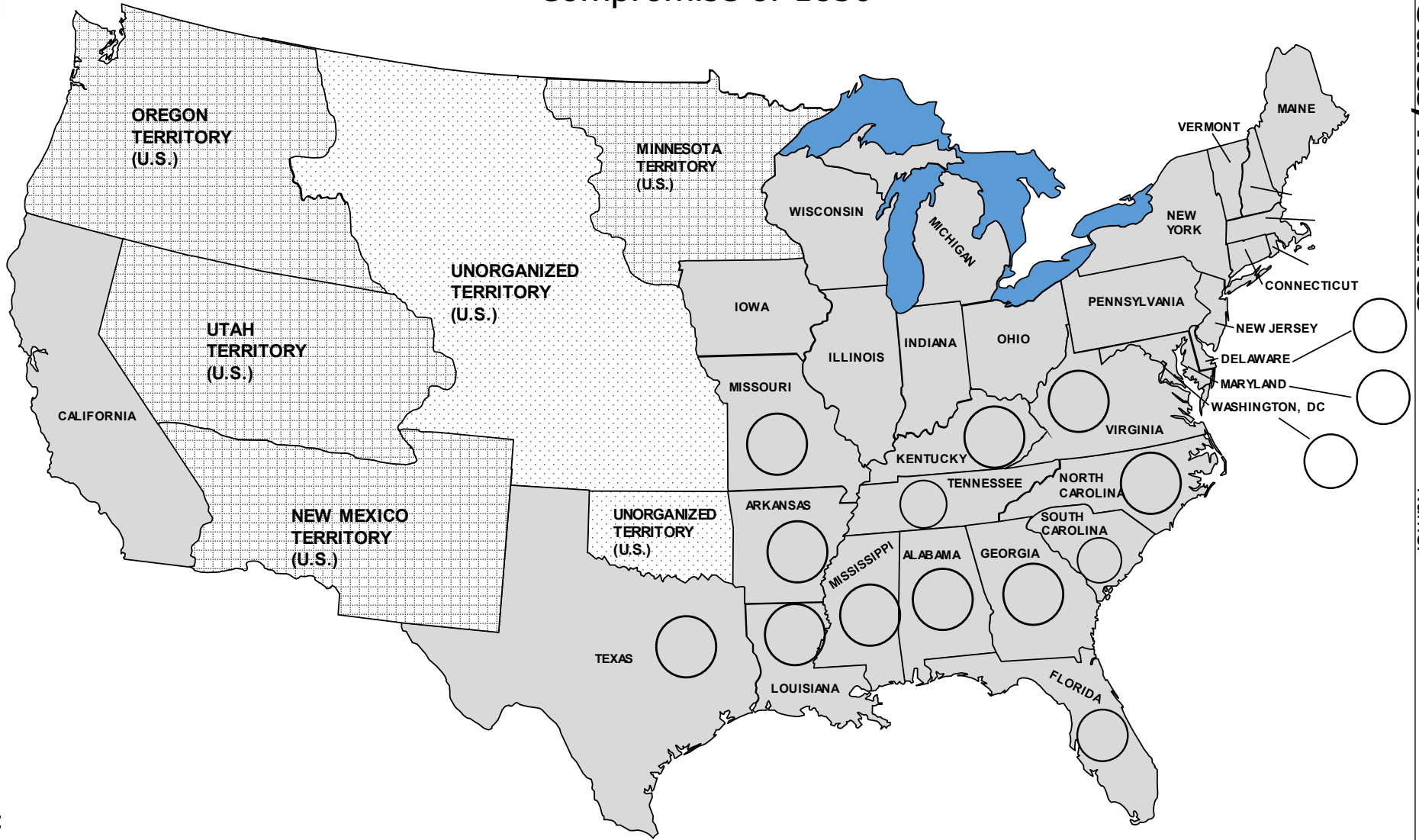
Missouri Compromise (1820)



Slave States, Free States

Name: _____

Compromise of 1850




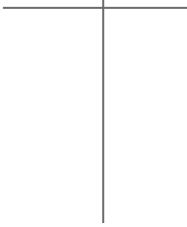

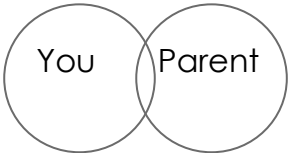


Slave States, Free States

Name: _____

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>