

ISD Grade Level: 5th Grade
ISD Content: ELA
Week: May 11 – May 15





Work Page

Home Reading Log

Name _____

Week of _____

Weekend	Title _____ Pages _____ Summary or Reflections _____ _____ _____	Reading Minutes
	_____ _____	Parent Signature
Monday	Title _____ Pages _____ Summary or Reflections _____ _____ _____	Reading Minutes
	_____ _____	Parent Signature
Tuesday	Title _____ Pages _____ Summary or Reflections _____ _____ _____	Reading Minutes
	_____ _____	Parent Signature
Wednesday	Title _____ Pages _____ Summary or Reflections _____ _____ _____	Reading Minutes
	_____ _____	Parent Signature
Thursday	Title _____ Pages _____ Summary or Reflections _____ _____ _____	Reading Minutes
	_____ _____	Parent Signature

5TH GRADE ELA CHOICE BOARD

choose an activity from each subject to complete for the week

READING

Authors of stories don't always tell us everything about a character. What is something you think a character in your story might like to do? Use your inferring skills!

When readers don't know a word in a story, they can infer the meaning of the word by using context clues. Use context clues in the book you're reading to infer the meaning of a word you don't know.

What is something the main character in your story did? What can you infer by the characters' actions?

What character traits does the main character have in your story? What clues in the story make you believe that?

WRITING

Write a story where you want to attend the best magic school in the land, but have no magical powers.

Write a story about an injured stray cat on your way from school, you decide to nurse it back to health. But soon find out that it has magical powers.

Write a story about your Grandad, who is the owner of an old antique shop. One day while helping your Grandad you discover a strange book called "The Guide to All Evil."

Write a story where you are preparing for the annual top magicians competition. For the past 5 years in a row you were voted wizard of the year. However this year there's a new wizard in town threatening your title.

SPELLING & VOCABULARY

Create some sentences using your spelling words.

Practice writing your spelling words in ABC order.

Try to use some of your spelling words in a conversation with someone you live with at home.

Write each of your spelling words 3 times each.

COMPREHENSION & FLUENCY

Ask someone in your house to read to/with you. If this person is older than you, have them read your favorite book with you. If they are younger, read their favorite book.

With the book of your choosing, write at least one question before you read, while you read, and after you read.

Using the online library resources, EPIC, or your personal library at home, pick a new book that you have not yet read. Try to make it a book you would not normally pick.

Read for 30 minutes a book of your choosing. If it is nice go outside and pick a comfy spot, get cozy, and dive in!

Spelling Words

May 11- May 15, 2020

1. ailment
2. treatment
3. element
4. comment
5. payment
6. assortment
7. agreement
8. government
9. argument
10. astonishment
11. statement
12. enjoyment
13. parliament
14. entertainment
15. embarrassment
16. encouragement
17. disappointment
18. discouragement
19. additional
20. adjoining

Name: _____

Date: _____



Reading Between the Lines



An **inference** is a conclusion you come to based on reasoning and evidence within a text. Read each paragraph below and answer the inference question that follows.

Harold grunted as he walked into the house. He carried four paper bags in his arms, each one filled to the brim. Suddenly, he tripped and one of the bags fell, spilling oranges, a loaf of bread, and two sticks of butter onto the floor. "At least I didn't drop the eggs!" he exclaimed.

Where was Harold before he got home? How do you know?

Each day, before Renee goes to work, she puts on her brown uniform and sturdy work boots. She has to get to work early because a lot of creatures, big and small, are counting on her for their breakfast. Later in the day, she will make sure their habitats are clean. Sometimes she gets dirty at work, but she enjoys seeing all the people who come to visit, peeking through fences and windows as she works.

Where does Renee work? How do you know?

Patrick arrived home from school with a grin. He burst through the front door and ran into the living room where he saw boxes wrapped in shiny paper and balloons tied to a chair. On the counter sat a chocolate cake with eleven candles. He reached for a taste of the frosting, but his mother scolded, "We have to sing to you before eating the cake!"

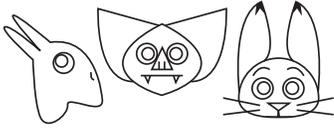
What is Patrick celebrating? How do you know?

Lucy sighed happily as she curled into a ball and licked her fur. After a long afternoon of laying in the sun, she was happy to be snuggled up on her soft bed. She purred contentedly as she closed her eyes, ready for a nap. Suddenly, she heard a buzzing noise. Her eyes snapped open and her ears twitched. She spotted a fly landing nearby. Lucy watched it carefully for a moment and then, POUNCE! She caught it!

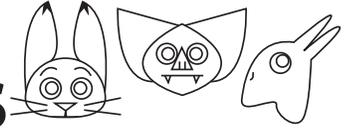
Who is Lucy? How do you know?

Name: _____

Date: _____



Making Inferences About Awesome Animals



An **inference** is a conclusion you come to based on reasoning and evidence within a text.
Read each paragraph below and answer the inference question that follows.

<p>The Arctic hare lives in the frozen Arctic tundra. Because of its cold habitat, the Arctic hare has thick, grey fur. However, when it snows, its fur turns completely white. Some Arctic hares that live in the far north stay white all year round.</p>	<p>You can infer that...</p> <ul style="list-style-type: none"> a) Arctic hares do not hibernate through the winter. b) Arctic hares use camouflage to protect themselves from predators. c) Arctic hares are herbivores. d) Arctic wolves prey on Arctic hares.
<p>If you saw a tapir, you might think it looked like a pig with a short elephant trunk. But, they are actually related to horses and rhinoceroses. There are many different types of tapirs. The largest species, called the Malay tapir, can grow up to 800 pounds!</p>	<p>You can infer that...</p> <ul style="list-style-type: none"> a) Tapirs have hooved feet. b) Tapirs live in forests and grasslands. c) Tapirs are excellent swimmers and can even dive under water. d) Tapirs can be found in Central and South America and Southeast Asia.
<p>Amazon river dolphins are a species of dolphin that make their homes in rivers. They are friendly animals, and are known to approach humans and river boats. But, unlike the dolphins you might see in the ocean, these dolphins are often pink in color.</p>	<p>You can infer that...</p> <ul style="list-style-type: none"> a) River dolphins eat crabs, catfish, and small turtles. b) River dolphins are an endangered species. c) River dolphins are very intelligent animals. d) River dolphins live in freshwater, not saltwater.
<p>Like the vampires you might see in a movie, vampire bats drink the blood of other animals to survive. They usually feed off the blood of cows, pigs, and horses. Although the blood sucking itself doesn't hurt the animals they bite, the bats can spread a disease called rabies.</p>	<p>You can infer that...</p> <ul style="list-style-type: none"> a) Vampire bats have special adaptations that help them walk, run, and jump. b) Vampire bats usually don't bite humans. c) Vampire bats live near farms. d) Vampire bats have a lifespan of about 12 years.

Name: _____

Date: _____

Reader's Theatre: Poems of Robert Frost

Directions: Poetry is fun to read in two or more voices! Select one of the following poems written by Pulitzer Prize winning poet, Robert Lee Frost, to read with a partner or in a group. Taking turns is fun! Practice your recitals by swapping single lines, couplets, stanzas, or any manner you decide.

(Have you ever been faced with a choice, and decided which would be the better one to choose?)

The Road Not Taken

Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

Then took the other, as just as fair
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that, the passing there
Had worn them really about the same,

And both that morning equally lay
In leaves no step had trodden black
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I doubted if I should ever come back.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I,
I took the one less traveled by,
And that has made all the difference.



PASSPORT



Name: _____

Date: _____

Reader's Theatre: Poems of Robert Frost

(Sometimes the sound of birdsong is in the mind of those beholden!)

A Minor Bird

I have wished a bird would fly away,
And not sing by my house all day;

Have clapped my hands at him from the door
When it seemed as if I could bear no more.

The fault must partly have been in me.
The bird was not to blame for his key.

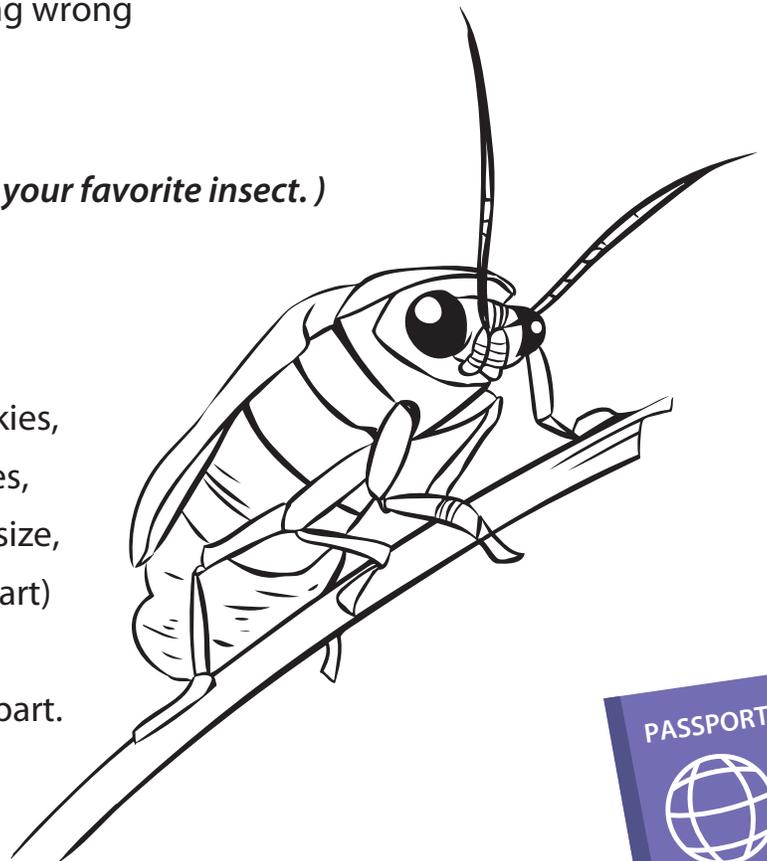
And of course there must be something wrong
In wanting to silence any song.



(Think on your favorite insect.)

Fireflies in the Garden

Here come real stars to fill the upper skies,
And here on earth come emulating flies,
That though they never equal stars in size,
(And they were never really stars at heart)
Achieve at times a very star-like start.
Only, of course, they can't sustain the part.



PASSPORT



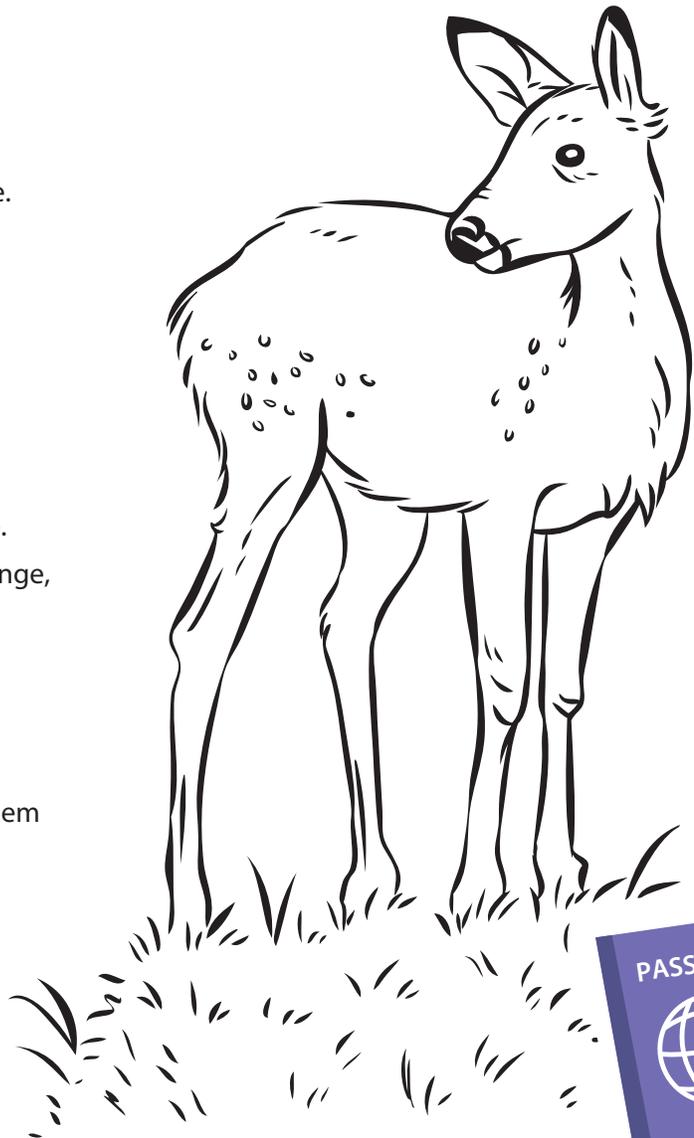
Reader's Theatre: Poems of Robert Frost

Two Look at Two

(*Who won your last staring contest?*)

Love and forgetting might have carried them
 A little further up the mountain side
 With night so near, but not much further up.
 They must have halted soon in any case
 With thoughts of a path back, how rough it was
 With rock and washout, and unsafe in darkness;
 When they were halted by a tumbled wall
 With barbed-wire binding. They stood facing this,
 Spending what onward impulse they still had
 In One last look the way they must not go,
 On up the failing path, where, if a stone
 Or earthslide moved at night, it moved itself;
 No footstep moved it. 'This is all,' they sighed,
 Good-night to woods.' But not so; there was more.
 A doe from round a spruce stood looking at them
 Across the wall, as near the wall as they.
 She saw them in their field, they her in hers.
 The difficulty of seeing what stood still,
 Like some up-ended boulder split in two,
 Was in her clouded eyes; they saw no fear there.
 She seemed to think that two thus they were safe.
 Then, as if they were something that, though strange,
 She could not trouble her mind with too long,
 She sighed and passed unscared along the wall.
 'This, then, is all. What more is there to ask?'
 But no, not yet. A snort to bid them wait.
 A buck from round the spruce stood looking at them
 Across the wall as near the wall as they.
 This was an antlered buck of lusty nostril,
 Not the same doe come back into her place.
 He viewed them quizzically with jerks of head,
 As if to ask, 'Why don't you make some motion?
 Or give some sign of life? Because you can't.

I doubt if you're as living as you look."
 Thus till he had them almost feeling dared
 To stretch a proffering hand -- and a spell-breaking.
 Then he too passed unscared along the wall.
 Two had seen two, whichever side you spoke from.
 'This must be all.' It was all. Still they stood,
 A great wave from it going over them,
 As if the earth in one unlooked-for favour
 Had made them certain earth returned their love.



PASSPORT



Poetry Reflections Reading Log

Name: _____ Date: _____

- Poetry is a structured form of writing that includes: Meter, rhyme, descriptive language, and stylish line groupings. Lines grouped in sections are called **stanzas**.



About Those Stanzas...

Directions: Use this organizer to cite stanzas and note your ideas about early, middle and ending stanzas in a poem.

Title: _____	Author: _____
---------------------	----------------------

An Early stanza sample:	My Thoughts, Feelings, and Ideas

A Middle stanza sample:	My Thoughts, Feelings, and Ideas

An Ending stanza sample:	My Thoughts, Feelings, and Ideas

Name: _____

Inferences

An **inference** is a conclusion you draw based on evidence in a reading passage.

Read each paragraph and answer the inference question that follows.

Maggie was getting ready to walk to school. She put on her coat and grabbed her backpack. As she was leaving, her mother said, "I love you. Be careful."

You can infer that...

- a. Maggie is in kindergarten or first grade.
- b. Maggie lives close to school.
- c. Maggie is never late for school.
- d. Maggie is excited about going to school.

Hudson hurried out of the house so he wasn't late for work. He wore overalls and carried a toolbox with wrenches in it. He hopped in his truck and drove off. The sign on his truck said, "Pipe Masters."

You can infer that...

- a. Hudson is an auto mechanic.
- b. Hudson enjoys his job.
- c. Hudson works as a plumber.
- d. Hudson is a truck salesman.

Nicole came out of the elevator in her apartment building. She ran to the curb and held up her arm to hail a taxi. When she hopped in, she said, "Please take me to 345 45th Street."

You can infer that...

- a. Nicole's car is broken.
- b. Nicole is going on vacation.
- c. Nicole is going shopping.
- d. Nicole lives in a large city.

Everett held his father's hand as he crossed the busy parking lot. They walked into a grocery store. Everett's dad lifted him into the seat of the shopping cart. "Here," said dad, "You can hold my shopping list."

You can infer that...

- a. Everett had never been to a grocery store.
- b. Everett's dad does not shop often.
- c. Everett's dad needs help with the shopping.
- d. Everett is very young.

Name: _____

Inferences

Read each paragraph and answer the questions.

Avery watched as her new next-door neighbors moved in. She observed a tall man carrying a bicycle and a kayak into the garage. She also saw a young woman carrying a surfboard through the front door.

Avery can infer that...

- a. her new neighbors are elderly.
- b. her new neighbors have several children.
- c. her new neighbors like to spend time outdoors.
- d. her new neighbors are kind and generous.

When Joseph walked into the kitchen, he saw muddy paw prints on the floor. His mother's wet coat was hanging on a chair. Below the coat he spotted his mother's rubber shoes. Joseph looked for his dog, Riley. He found Riley, who was soaking wet, lying on the couch panting.

Joseph can infer that...

- a. his mother gave Riley a bath.
- b. Riley played in the yard during a rainstorm.
- c. Riley dragged the coat outside.
- d. his mother took Riley for a walk in the rain.

Kayla made a steak dinner for her family. Her mom and dad each ate two full steaks and had large helpings of mashed potatoes. When the meal was over, everyone's plate was empty.

Kayla can infer that...

- a. her family enjoyed the meal.
- b. the steak was too well done.
- c. a steak dinner is an easy meal to make.
- d. there will be lots of leftovers.

Alexander arrived at his grandmother's house at ten o'clock at night. He saw her car in the driveway and the front door was open. The window was lit with a blue-flickering light.

Alexander can infer that...

- a. his grandmother was reading a book.
- b. his grandmother was not home.
- c. his grandmother was watching television.
- d. his grandmother was sleeping.

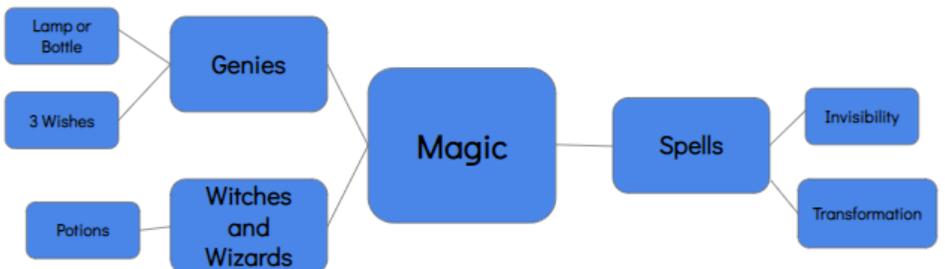
Fantasy Writing

Prompt: Your main character is a genie. He is tired of being trapped in a lamp for thousands of years. He breaks out and throws a tantrum, sending magic spells everywhere. Write a story describing the mess he made and how his magic affected those around him.

Monday: Begin brainstorming details for your story. Think about characters, setting, events that happen. Include as many details as possible in your brainstorm.

Organizer Example #1 Word Webs:

- Word webs help you generate ideas about a topic.
- The lines are used to show connections between words.
- Here is an example:



Fantasy Writing

Prompt: Your main character is a genie. He is tired of being trapped in a lamp for thousands of years. He breaks out and throws a tantrum, sending magic spells everywhere. Write a story describing the mess he made and how his magic affected those around him.

Tuesday: Using the brainstorm you created yesterday, choose three events that will happen in your story. They will become your plot.

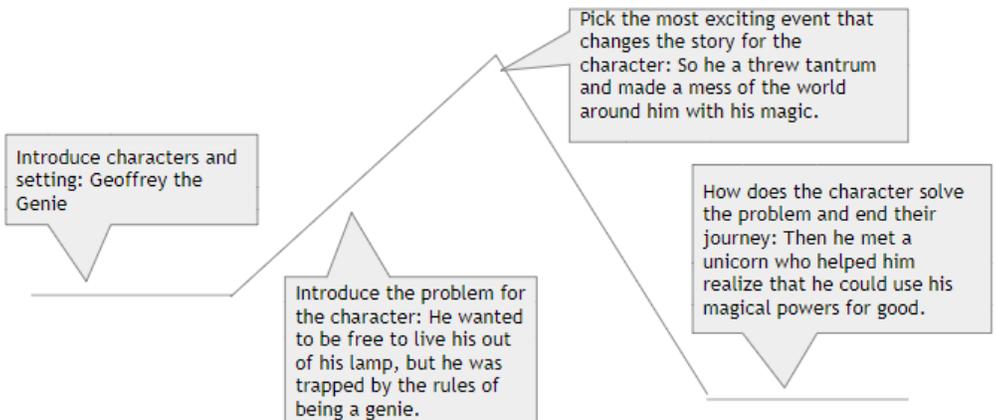
1. _____

2. _____

3. _____

Organizer Example #2 Story Map:

- The story map helps you plan out the story in sequence of events.
- Here is an example for a story that I am working on:





Work Page

ISD Grade Level: 5th Grade
ISD Content: Social Studies
Week: May 11 - May 15





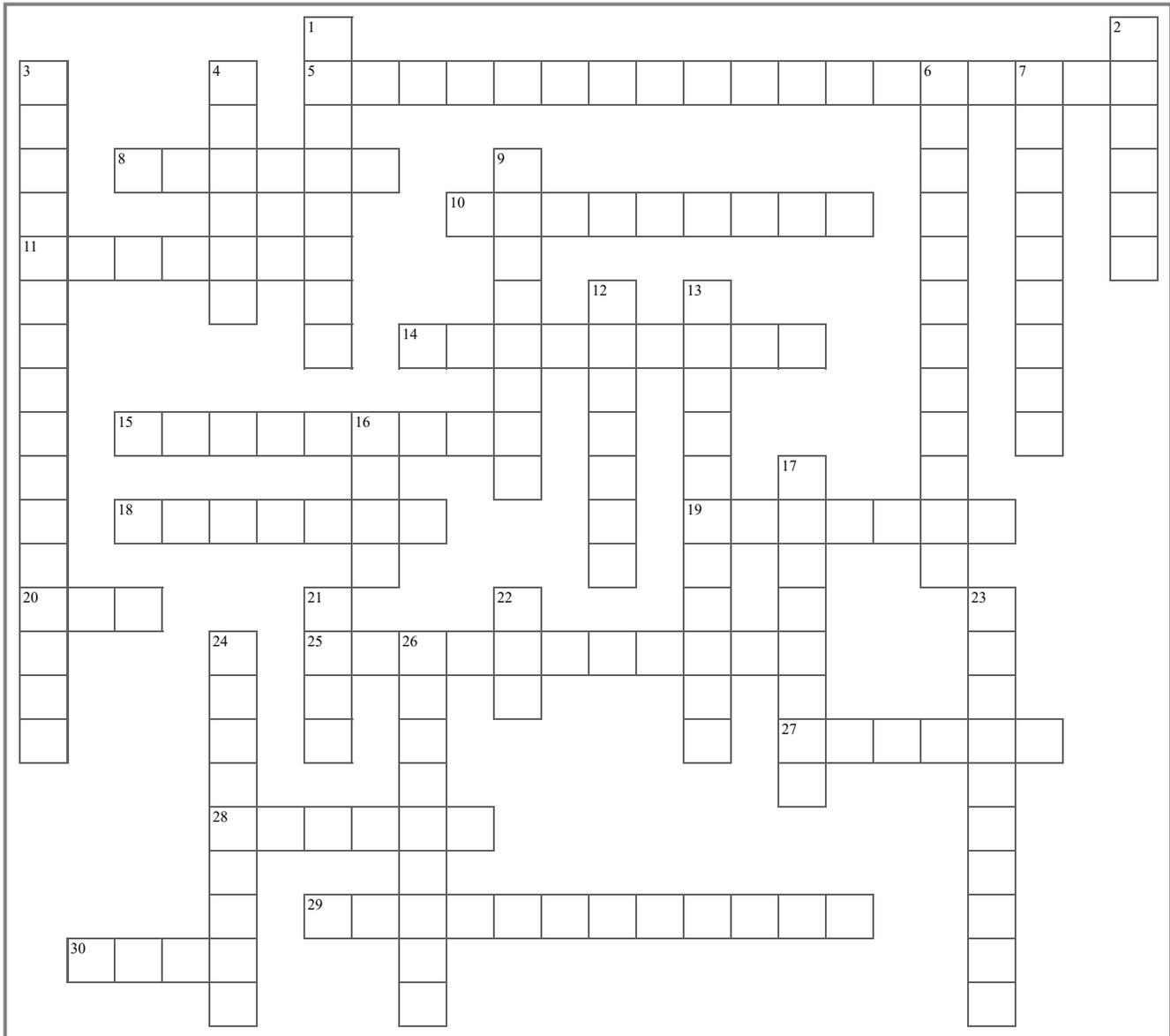
Work Page

Crossword Puzzle

Interactive version

[Back to all Crossword Puzzles](#)

Cold War



Across

5. When the Soviet Union set up nuclear missiles in Cuba
8. ____ Pact was an alliance between the Soviet Union and other Eastern European countries
10. A botched attempt by the US to take over the government of Fidel Castro

Down

1. Senator Joseph ____ orchestrated the Red Scare against communism in the United States
2. The Yom Kippur War was fought between this country and the Arab states of Egypt and Syria
3. She was the British Prime Minister during much the Cold War

11. The Berlin _____ was when the Allies flew food and supplies over East Germany to the city of Berlin
14. Government of the Soviet Union where there was no private property
15. War fought at the 38th parallel
18. An easing of relations between the Soviet Union and the US
19. The subject of this crossword puzzle
20. Ho _____ Minh :Leader of North Vietnam during the Vietnam war
25. Country where the Soviet Union fought a long and wasteful war against rebels called the Mujahideen
27. The _____ Union was the superpower that fought the cold war against the United States
28. The _____ Doctrine was a US policy designed to stop the spread of communism
29. President during the Cuban Missile Crisis and the Bay of Pigs
30. The _____ Curtain
4. City with a wall around it to prevent people from escaping from East Germany
6. United States president who said "tear down this wall"
7. The Suez Crisis occurred when Egypt took control of this waterway
9. German philosopher and author who wrote about the idea of communism as a government
12. A _____ weapon uses nuclear forces to create an enormous explosion
13. Leader of Cuba
16. The North Atlantic Treaty Organization
17. A policy by which the Soviet government was more open and allowed for some level of freedom of speech
21. Acronym for the Strategic Arms Limitation Talks
22. _____ Zedong was the founder of Communist China
23. The United States and the Soviet Union during the cold war were often called by this name to reflect their military strength
24. Neil _____ was the first man to set foot on the Moon
26. Soviet leader Mikhail _____ brought reform to the Soviet Union and helped to end the Cold War

Courtesy of www.ducksters.com

Back to [Kids Games](#)

Copyright 2018 TSI Subject to terms of use. All rights reserved.

Name _____

Date _____

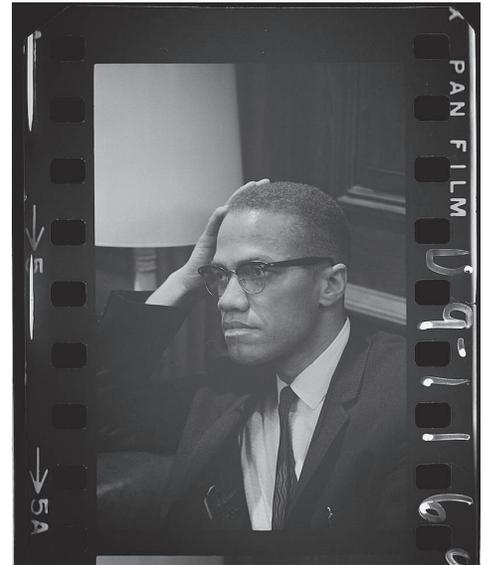
Civil Rights



The Later Years of the Movement

Directions: Read about the later years of the civil rights movement below. Then follow the writing prompt on the next page.

By the end of the '60s, the Civil Rights movement had changed a lot. Many goals had been met: segregation had ended, housing discrimination was made illegal, and discriminatory voting practices had been outlawed. However, there was still more work to be done: many peaceful demonstrations in the late '60s ended in bloody fighting.



Civil rights leader Malcom X

Though they had won many legal rights, African Americans were still looked down upon by many people. Many citizens still refused to accept them into their communities and attacked and hurt them. In 1968, Martin Luther King, Jr. was assassinated. Though leaders asked citizens to remain calm in response to the terrible news, riots broke out all over the country.

People's attitudes toward how African Americans should achieve their rights had changed. Though the ideals of nonviolence had spread to other protests going on at the time, many people wondered if it was still working. Some began to believe that if confronted with violence, people should defend themselves and fight back. Activists like Malcolm X argued that for African Americans to achieve power in society, they should not work with others but should work to improve their own neighborhoods and communities to show that they could do it without the help of white people. He and other activists thought that integration and equality might cause African Americans to blend in and lose their individuality, and encouraged his followers to take pride in their African heritage and culture. Many people agreed with his ideas, and by the end of the 1960s, groups that encouraged self-defense and self-reliance were becoming just as influential as those that wanted nonviolent protests.

“ Education is the passport to the future, for tomorrow belongs to those who prepare for it today. ”

— Malcom X

Name _____

Date _____

Civil Rights



The Later Years of the Movement

What do you think? As the movement wore on, many people began to change their minds about nonviolence. What do you think: would nonviolence work in modern society? Why or why not?

Think of an issue that is happening today. What is the best nonviolent way to handle it? Would nonviolence help solve it?

Name _____

Date _____

Civil Rights

Sit Ins



Directions: Read about sit-ins, then answer the questions on the following page.

In 1960, four students staged a nonviolent protest against segregation that would help **mobilize** hundreds of anti-segregationists.

Woolworth's was a chain store with many locations across the country. Though it was a store, many stores also had a small restaurant where shoppers could buy light meals. In Southern states, many of these restaurants were segregated.

In 1960, four college students who wanted to end segregation went to their local Woolworth's lunch counter in Greensboro, North Carolina. They sat in the whites-only section and asked to be served, but the staff refused to serve them. The manager asked them to leave the restaurant but they would not. They stayed until the restaurant closed.

They went back to school and told their friends about it. The next day, 25 people joined them. The day after that, 60 people. The day after that, over 100. On the fourth day, 300 people were peacefully protesting segregation with them. The protesters all followed the same rules: they would come in, sit in the white section, ask for service, and when they were told they could not be served, would stay in their seats until closing time, thus preventing any new customers from coming in. Though people who opposed their protest **taunted** them and sometimes even hurt them, the protesters remained calm and stayed in their seats. To pass the time, they would read, study, or do homework.

By the second day of the protest, the news had reported on the event, which spread word of their protest to other parts of the country. Soon, all over the south, African Americans and their **allies** were staging sit-ins at Woolworth's lunch counters, and friends who did not participate in the sit-ins urged others not to shop at Woolworth's stores. The attention from the media helped people all over the country hear about the injustice that was happening in the south.

Five months later, after sales at the stores dropped by one third, Woolworth's agreed to integrate their lunch counters. This was a **milestone** in the fight for civil rights: up until then, African Americans had voiced their disapproval of segregation, but had always followed the rules. The way the protesters achieved change through peaceful protest told the rest of the country that change was coming.

Name _____ Date _____

Civil Rights

Sit Ins



Vocabulary: Match the word with the definition:

mobilize

Teased or “egged on”

taunted

Encourage to take action with others

allies

An important event

milestone

People who work together toward the same goal

1. What was the meaning behind the protesters’ refusal to leave?

2. Why do you think the protesters stayed silent when being teased by other patrons? How did this help their cause?

Historical Heroes: Rosa Parks



In 1955 in Alabama, there were rules about where people could sit on buses. White people could sit anywhere they wanted. African Americans had to sit at the back of the bus. Many people did not think this rule was fair.

One woman, Rosa Parks, chose not to follow the rule one day. She was tired after a long day at work. The bus driver ordered her to give up her seat to a white passenger. She refused. Rosa Parks did not follow the driver's directions. She was arrested and taken to jail.

Other African Americans had also been brave when they refused to give up their seats on a bus. But this time, people started to pay attention. The Montgomery Bus Boycott began. This boycott helped end segregation on buses. This meant that all people could sit anywhere they wanted.

Directions: Answer the questions below. Use text evidence to support your answers.

1. Until the boycott, African Americans in Alabama had to sit at the _____ of the bus.

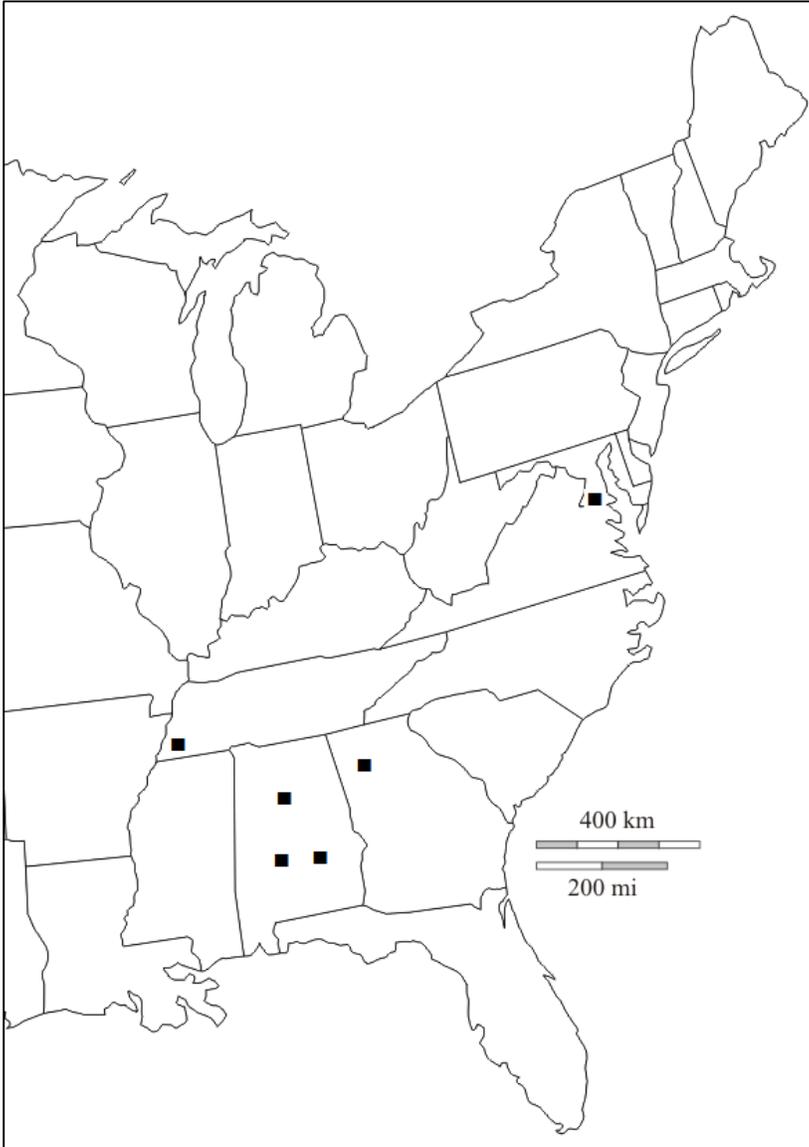
2. Why was Rosa Parks told to give up her seat on the bus?

3. When did Rosa Parks refuse to give up her seat?

4. Why was Rosa Parks arrested and taken to jail?

5. How did Rosa Parks help other people?

Geography of Dr. Martin Luther King, Jr. (1929-1968)



The map to the left shows cities in the eastern portion of the United States, where Martin Luther King, Jr., lived and did most of his work. Identify each of the following cities on the map.

1. **Atlanta**, Georgia, where Dr. King was born on January 15, 1929.
2. **Montgomery**, Alabama, where in 1955 Dr. King helped lead a bus boycott.
3. **Washington**, D.C., where Dr. King gave his famous “I Have a Dream” speech in 1963 during the March on Washington.
4. **Birmingham**, Alabama, where Dr. King worked for civil rights in the Birmingham campaign of 1963.

5. **Selma**, Alabama, where Alabama State troopers attacked civil-rights demonstrators on Bloody Sunday, March 7, 1965, during the Selma to Montgomery marches.

6. **Memphis**, Tennessee, where Dr. King was assassinated on April 4, 1968.

ISD Grade Level: 5th Grade
ISD Content: Math
Week: May 11 - May 15





Work Page

Line Plot Vocabulary

Definition	Line Plot:
Line Plot: a graph that displays data as points or symbols above a number line, showing the frequency of each value	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">TITLE OF LINE PLOT</div>
Data Table: Number Line Scale: the data collected Data Collected: the frequency that the data occurred	
Title & Number Line Labels: Title: tells about the data that is in the line plot. Number line title (X): tells what is being plotted	
Scale: a set of numbers that help to measure data in a set multiple. (Example: This graph's scale is multiples of 2.)	
Data points: shows the frequency of the data. The data points can be many different symbols. They remain the same throughout the entire line plot.	

How to TITLE a LINE PLOT

It is a TITLE so it needs to be capitalized!

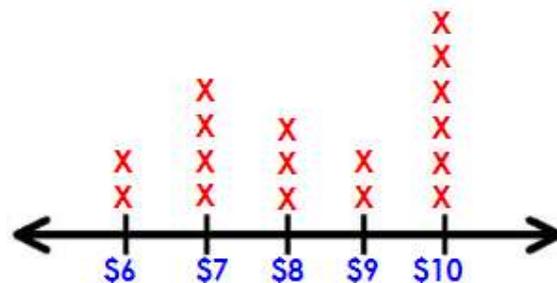
1. LOOK at your data

- Cost of T-Shirts
- Number of T-Shirts Sold

2. Combine the two pieces of information into a short phrase.

- Number of T-Shirts Sold at Each Price

Number of T-Shirts Sold at Each Price



Cost of T-shirt	\$6	\$7	\$8	\$9	\$10
Number of T-Shirts	2	4	3	2	6

Cost of T-Shirt

How to LABEL the Number Line on a Line Plot

The number line will be the data you are collecting. It could be ANYTHING. It is a title so it needs to be capitalized.

- Favorite Food
- Ages in a Classroom
- Lengths of _____
- Finishing Times in a Race
- Points Collected on an Assignment

Scale: Decide what the scale is on the number line by finding the RANGE from the data collected. Write the numbers in order from least to greatest in your range without skipping numbers.

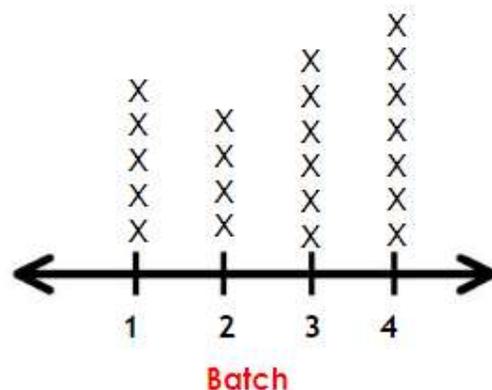
Key: Explains the VALUE of each data point symbol. If there isn't a key it is assumed the value of the symbol is 1.
(Example: X=3)

How to CREATE a LINE PLOT

1. **Label** your **number line** and **Title** your graph.
2. **Look** at your **data table**.
3. Decide which part of the table will be the number line.
4. **Create** your **scale** for the number line based off the data table.
5. Create a key for the points if needed.
6. Plot your **data on the number line**.

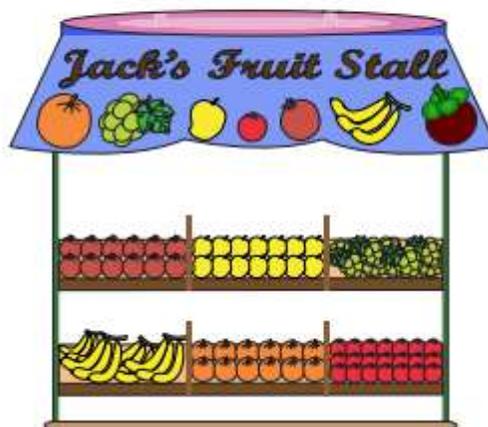
Batch	Mass (g)
1	5
2	4
3	6
4	7

Mass of Each Batch of Slime

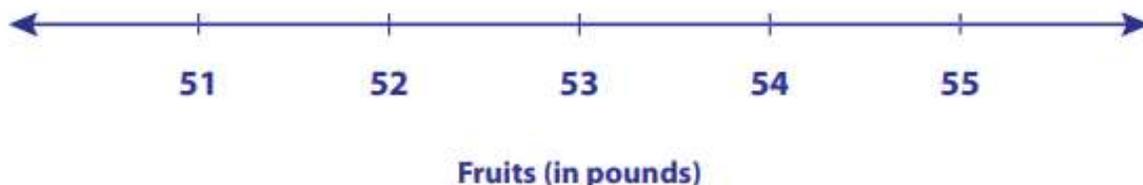


Jack runs a fruit stall in the local farmers' market. He records the amount of fruit sold (in pounds) over a period of 14 days. Make a line plot to represent the data below.

54	55	55	53	51
51	54	53	55	51
52	55	55	53	



Jack's Stall



Interpreting Line Plot VOCABULARY

MEAN

the average value of a set of numbers

7,8,9,12

Step 1: Add all the numbers in the data set

$$7 + 8 + 9 + 12 = 36$$

Step 2: Divide the answer by the amount of numbers in the set

$$36 \div 4 = 9$$

MEDIAN

The middle number in an ordered set of numbers
8,4,2,3,5,6,3,5,7

Step 1: Put all the data in order from LEAST to GREATEST

2,3,3,4,5,5,6,7,8

Step 2: Find the number in the set that is in the middle of the data. It will split it into two equally sized groups or halves.

2,3,3,4,5,5,6,7,8

Step 3: If there are TWO middle numbers find the mean of the two. That is the median.

2,3,3,4,4,5,5,6,7,8

$$4 + 5 = 9$$

$$9 \div 2 = 4.5$$

MODE

The number that appears most often in a set

14,12,14,15,17,14,17

Step 1: Optional- it would help to put them in order from least to greatest.

12,14,14,14,15,17,17

Step 2: Count the numbers to see which number occurs most!

12,14,14,14,15,17,17

RANGE

Difference between the lowest and highest numbers in a set

6,8,8,9,12,14,14

Step 1: Find the largest and smallest piece of data.

Largest: 14 Smallest: 6

Step 2: Subtract the numbers to find the difference.

$$14 - 6 = 8$$

What is an OUTLIER?

An **OUTLIER** is a number in a data set that is
much smaller

or

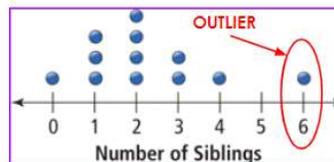
much larger

than the rest of the numbers. It doesn't follow a trend in the data.

3, 13, 14, 14, 16, 16, 17

OR

76, 76, 77, 78, 78, 135



WATER BOTTLE or PLASTIC CUP FLIP

DIRECTIONS: 1. Flip a water bottle 10 times for Round 1.

2. Tally how many times you successfully flipped the water bottle or plastic cup upright on its bottom.

Success Tallies:

3. On the chart below, repeat steps 1-2 five more times for a total of 6 rounds.

Round	1 (from above)	2	3	4	5	6
Success Tallies						

4. Make a line plot that shows the number of successes by using the data you collected.

Title: _____



Label: _____

1. How many rounds did you successfully flip the cup 5 times? _____
2. What was the highest round of successes? _____
3. What was the lowest round of successes? _____
4. Find the median: _____
5. Find the mode: _____
6. Find the outlier: _____
7. Find the range: _____
8. 20,13,6,19,18,6,16 Find median: _____ mode: _____ range: _____
9. 1,8,8,11,6,10,13,12,15 Find median: _____ mode: _____ range: _____ outlier: _____

Interpreting Line Plot VOCABULARY

MEAN

the average value of a set of numbers

7,8,9,12

Step 1: Add all the numbers in the data set

$$7 + 8 + 9 + 12 = 36$$

Step 2: Divide the answer by the amount of numbers in the set

$$36 \div 4 = 9$$

MEDIAN

The middle number in an ordered set of numbers
8,4,2,3,5,6,3,5,7

Step 1: Put all the data in order from LEAST to GREATEST

2,3,3,4,5,5,6,7,8

Step 2: Find the number in the set that is in the middle of the data. It will split it into two equally sized groups or halves.

2,3,3,4,5,5,6,7,8

Step 3: If there are TWO middle numbers find the mean of the two. That is the median.

2,3,3,4,4,5,5,6,7,8

$$4 + 5 = 9$$

$$9 \div 2 = 4.5$$

MODE

The number that appears most often in a set

14,12,14,15,17,14,17

Step 1: Optional- it would help to put them in order from least to greatest.

12,14,14,14,15,17,17

Step 2: Count the numbers to see which number occurs most!

12,14,14,14,15,17,17

RANGE

Difference between the lowest and highest numbers in a set

6,8,8,9,12,14,14

Step 1: Find the largest and smallest piece of data.

Largest: 14 Smallest: 6

Step 2: Subtract the numbers to find the difference.

$$14 - 6 = 8$$

What is an OUTLIER?

An **OUTLIER** is a number in a data set that is *much smaller*

or

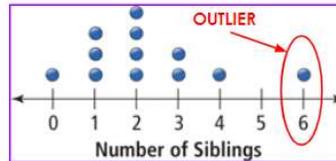
much larger

than the rest of the numbers. It doesn't follow a trend in the data.

3, 13, 14, 14, 16, 16, 17

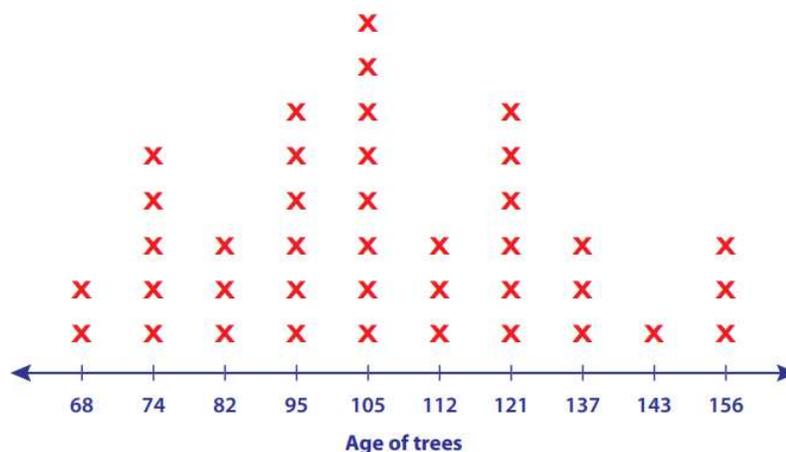
OR

76, 76, 77, 78, 78, 135



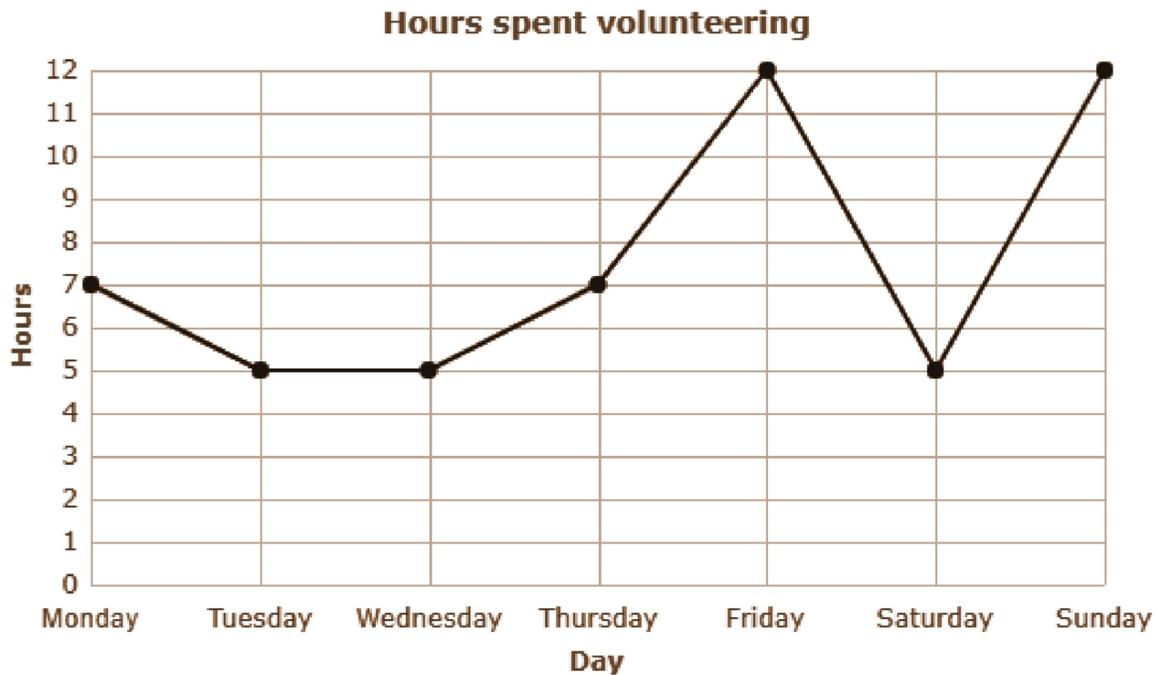
Kenny, a dendrologist determined the age of a variety of trees in the woods behind his home. He created a line plot based on his findings.

Dendrology



1. How many trees are more than 110 years old? _____
2. What is the age of the **MAXIMUM** number of trees in the woods? _____
3. Find the median: _____
4. Find the mode: _____
5. Find the range: _____

To get credit for meeting her school's community service requirement, Reba kept a volunteering log.



6. What is the mode for the hours spent volunteering? _____
7. What is the range? _____
8. How many more hours did she spend volunteering on Friday than Thursday? _____
9. How many hours did she spend volunteering altogether? _____
10. Why do you think Reba did not spend as many hours volunteering Monday-Thursday?

LENGTH	
12 inches	= 1 foot
36 inches 3 feet	= 1 yard
63,360 inches 5,280 feet 1,760 yards	= 1 mile



Convert between inches, feet, yards and miles.

- 1) 23 ft = _____ in
- 2) 216 in = _____ ft
- 3) 41 ft = _____ yd
- 4) 36 yd = _____ in
- 5) 9 mi = _____ yd

Compare the measures of length and fill in the box with the appropriate symbols $<$, $>$, or $=$ for each problem.

6) 219 ft _____ 79 yd

7) 108 in _____ 7 ft

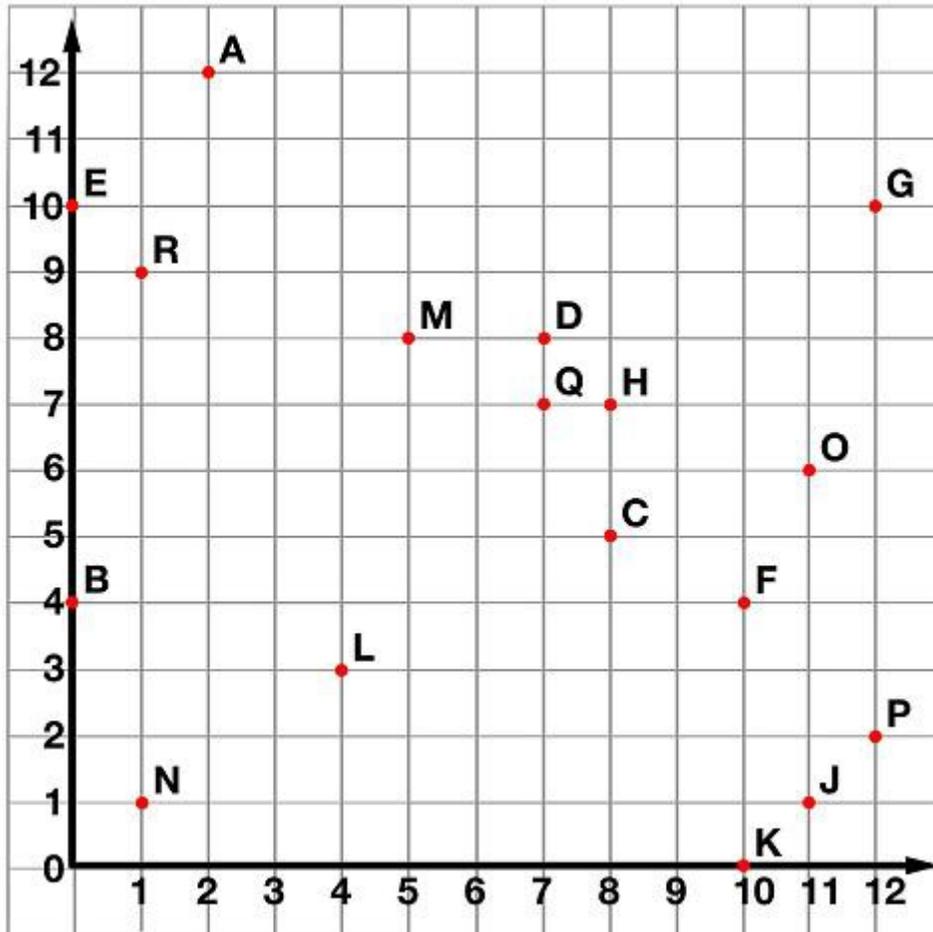
8) Dr. Herl bought new rope for the flag pole at Central Office. He used 83 feet of rope. How many inches of rope did he use?

9) The Superbowl parade went 8,800 yards around downtown Kansas City. How many miles did they travel?

10) Dr. Herl lives 8 miles from his favorite restaurant . How many feet are equivalent to 8 miles?

Name: _____

Ordered Pairs



Tell what point is located at each ordered pair.

- | | | |
|------------------|-----------------|-----------------|
| 1. (5,8) _____ | 2. (12,2) _____ | 3. (8,7) _____ |
| 4. (12,10) _____ | 5. (7,7) _____ | 6. (0,10) _____ |

Write the ordered pair for each given point.

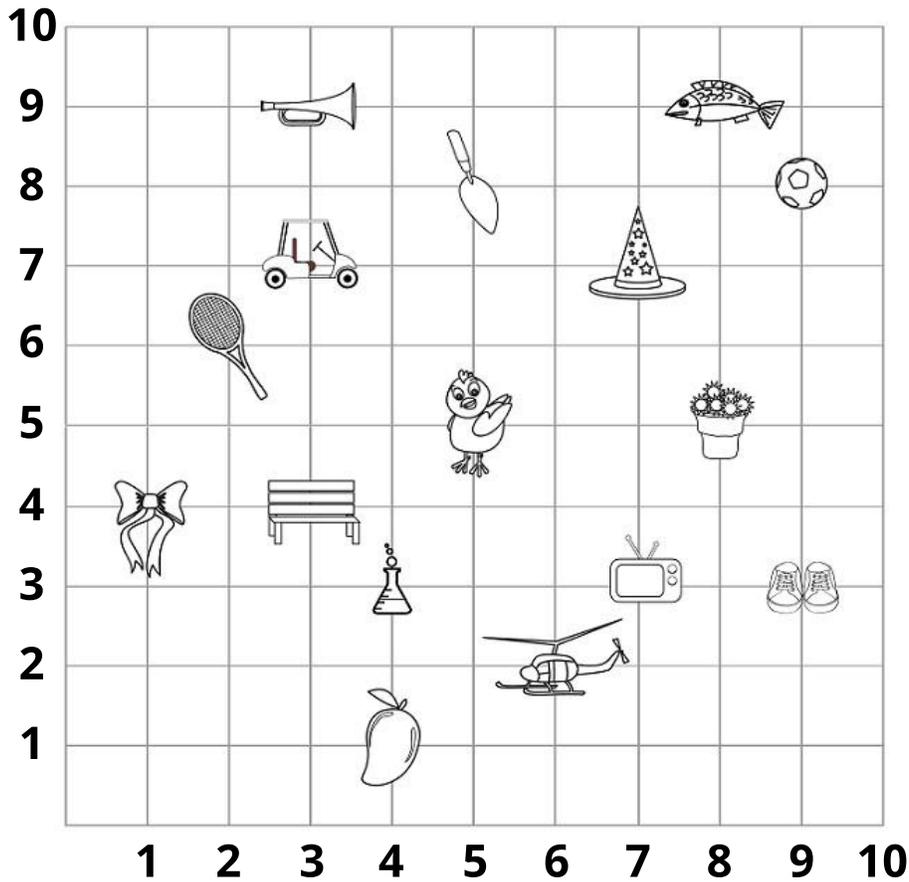
- | | | |
|-------------|-------------|-------------|
| 7. N _____ | 8. L _____ | 9. J _____ |
| 10. A _____ | 11. B _____ | 12. E _____ |

Plot the following points on the coordinate grid.

- | | | |
|--------------|-------------|--------------|
| 13. S (6,11) | 14. T (3,5) | 15. U (9,12) |
|--------------|-------------|--------------|

Name: _____

Ordered Pairs



Write the ordered pair for each of the objects listed.

example: television - (7,3)

a. helicopter - _____ b. shoes - _____ c. pepper - _____

d. wizard's hat - _____ e. fish - _____ f. golf cart - _____

Tell which object is located at each point.

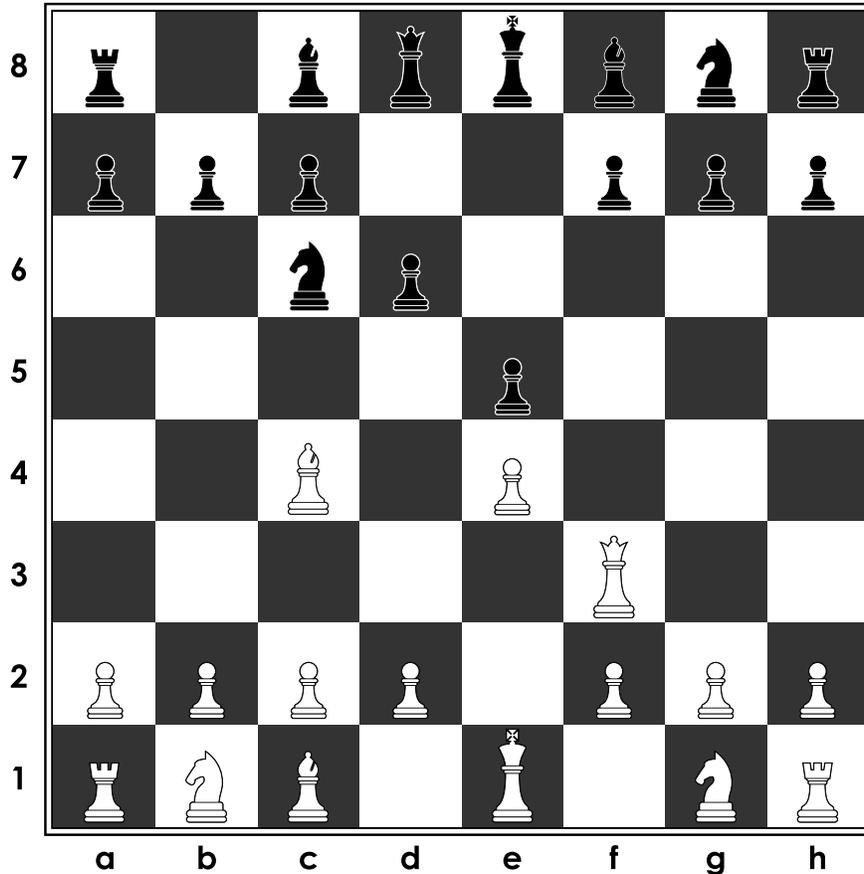
g. (3,4) - _____ h. (2,6) - _____ i. (1,4) - _____

j. (5,5) - _____ k. (9,8) - _____ l. (3,9) - _____

Name: _____

Ordered Pairs in Chess

A chess board is very similar to a coordinate grid. The location of chess pieces are labeled by letter-number ordered pairs.



Write the letter-number combinations that mark the location of the following chess pieces.

 black queen (d, 8)

 white queen _____

 black knights _____ and _____

 white bishops _____ and _____

 white king _____

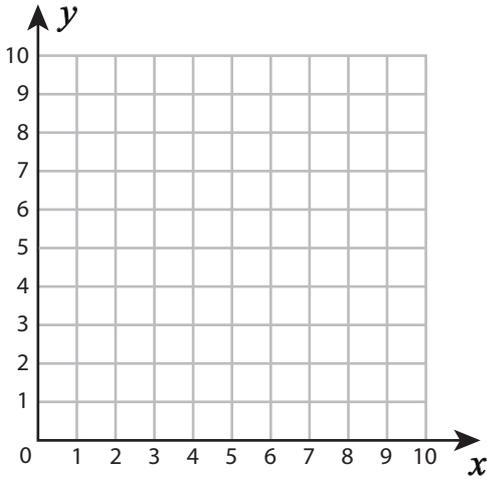
 black king _____

 black pawns _____

Plotting Points - Shapes

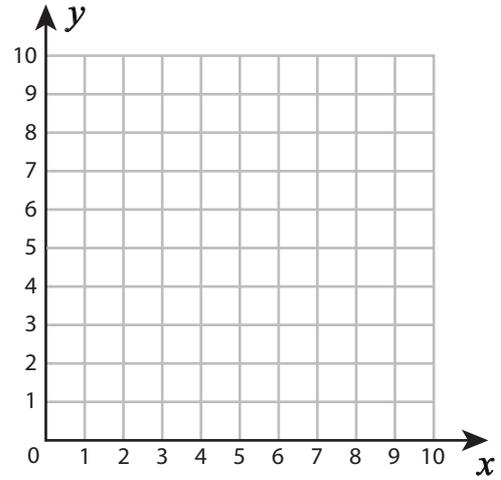
Plot and join the points in the given order. Complete the figure by joining the end points. Identify the shape.

1) $(2, 8), (3, 9), (5, 9), (6, 8), (5, 7), (3, 7)$



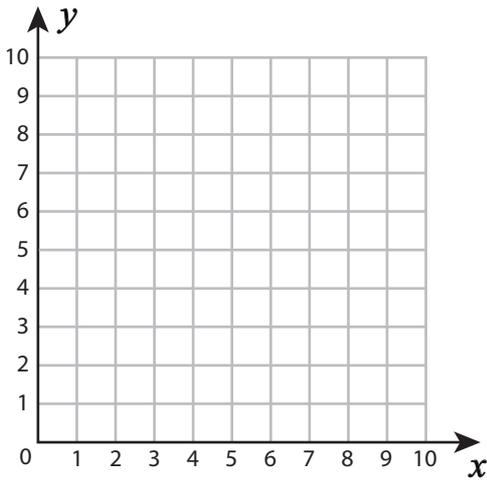
Shape: _____

2) $(5, 5), (9, 5), (9, 1), (5, 1)$



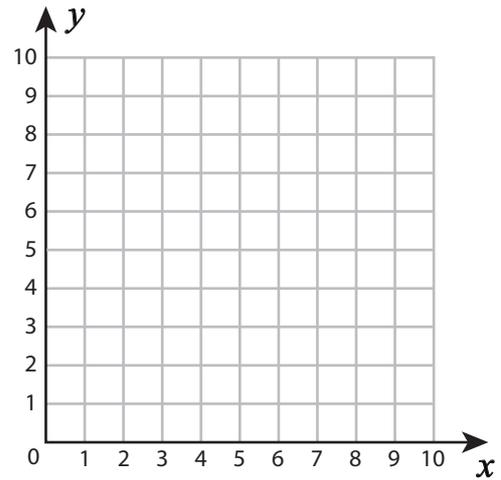
Shape: _____

3) $(2, 4), (3, 7), (7, 7), (6, 4)$



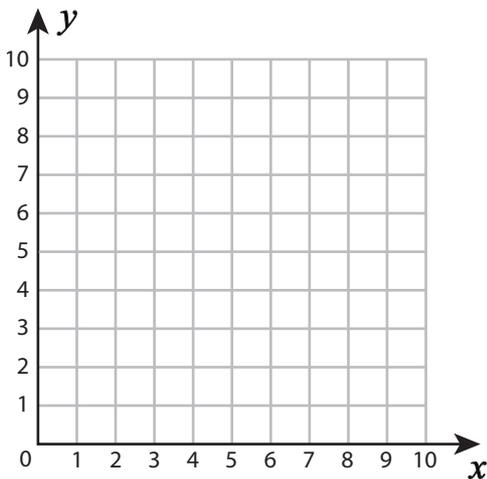
Shape: _____

4) $(3, 9), (7, 5), (3, 2)$



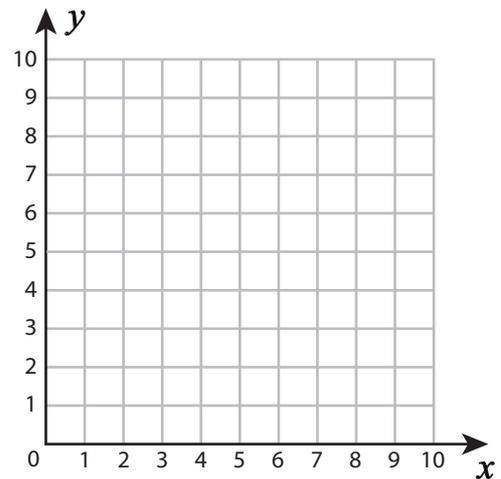
Shape: _____

5) $(2, 7), (8, 7), (8, 3), (2, 3)$

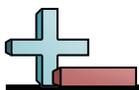


Shape: _____

6) $(4, 7), (7, 7), (10, 4), (1, 4)$



Shape: _____



Use the patterns to answer the questions.

1) Pattern A	8	11	14	17	20
Pattern B	4	7	10	13	16

The patterns above are synchronized. If the number in pattern A is 192, what will be the number in pattern B?

2) Pattern A	2	3	4	5	6
Pattern B	16	24	32	40	48

The patterns above are synchronized. If the number in pattern A is 20, what will be the number in pattern B?

3) In a pattern the first number is a 5. The second number is a 10. The third is a 15. Fourth is a 20. If the pattern continues will the 20th number end in a 5 or a 0?

4) In a pattern the first number is a 10. The second number is a 20. The third is a 30. Fourth is a 40. If the pattern continues what will be the 24th number in the pattern?

5) A pattern starts with 3. The second number is a 11. The third is a 19. Fourth is a 27 and fifth is 35. If you double the 23rd number in the pattern, will the result be even or odd?

6) A pattern starts with 5. The second number is a 10. The third is a 15. Fourth is a 20 and fifth is 25. If the pattern continues will the 13th number in the pattern be even or odd?

7) A pattern starts with 2. The second number is a 4. The third is a 6. Fourth is a 8 and fifth is 10. If the pattern continues will the 10th number in the pattern be even or odd?

8) A pattern starts with 8. The second number is a 16. The third is a 24. Fourth is a 32 and fifth is 40. If the pattern continues will the 19th number in the pattern be even or odd?

9) A pattern starts with 3. The second number is a 6. The third is a 9. Fourth is a 12 and fifth is 15. If the pattern continues will the 19th number in the pattern be even or odd?

10) A pattern starts with 3. The second number is a 6. The third is a 9. Fourth is a 12 and fifth is 15. If the pattern continues will the 12th number in the pattern be even or odd?

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



Work Page

ISD Grade Level: 5th Grade
ISD Content: Science
Week: May 11 - May 15





Work Page

5th Grade Science May 11 Handout

Directions: Use your knowledge of mammal body systems to answer the following questions.

1. Fill in the blanks using the following words: **circulatory, muscular, digestive, nervous**.

When exercising, your _____ system helps move the oxygen throughout your body.

2. **True or false:** the body is made up of only four systems that all work together. _____

3. Which body system includes the heart? _____

4. Which body system includes the brain? _____

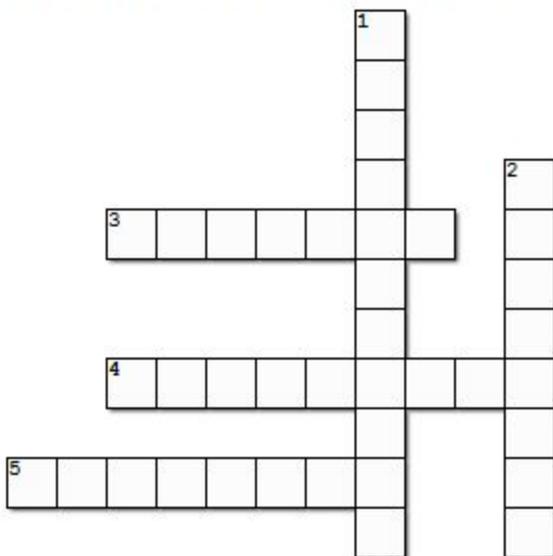
5. **True or false:** chewing your food is the first step of digestion. _____

6. Which body systems is your blood a part of? _____

7. Complete the crossword below.

Mammal Body Systems

Complete the crossword puzzle below.



Across

3. The _____ system is made up of the brain, the spinal cord, and a large network of nerves that covers all parts of the body
4. The _____ system breaks food down into substances that the various organs and cells in our body can use.
5. All movement in the body is controlled by muscles which is a part of the _____ system.

Down

1. The _____ system delivers nutrients throughout the body.
2. The _____ system provides strength and rigidity to the body.

Word Bank:

Circulatory
Digestive
Muscular
Nervous
Skeletal

5th Grade Science May 11 Handout

Comparing a Human and Bird Skeleton

The avian (bird) skeleton has many features that resemble the human skeleton, and the majority of the bones are the same, they are only shaped different. The main difference between the human and bird skeleton is that the bird's skeleton is adapted for flight. For instance, the bones of a bird are hollow which makes the skeleton lighter.

The arm bones of the human consist of the humerus, the radius and the ulna. These bones are also found in the bird. On both skeletons, color the humerus (G) pink . Color the radius (F) green and the ulna (E) light green .

The leg consists of a long femur which attaches to the pelvis and then two bones of the lower leg. In the bird, these two bones: the tibia and fibula are fused together. In humans, they are separated. You are probably familiar with the tibia of the bird, that's the part you eat called the drumstick. When you eat the thigh of the bird, the bone within it is the femur. On both skeletons, color the pelvis (M) yellow, the femur (N) orange, and the tibia (O) light blue . On the human only, color the fibula (P) dark blue . Also on the human skeleton, the patella, also called the kneecap is visible. Color the patella (S) green .

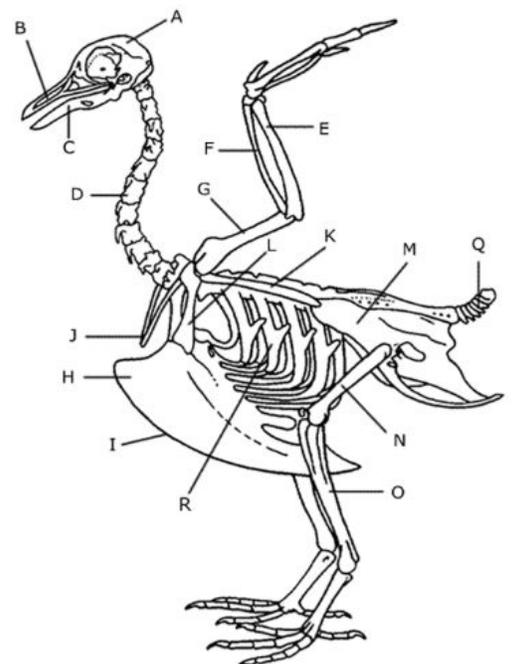
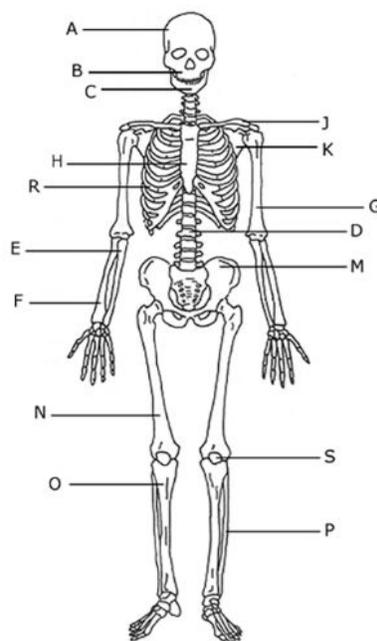
The head of both birds and humans is protected by a large cranium. The upper jaw of the human, and the upper beak of the bird is composed of a bone called the maxilla. The lower jaw and lower beak is composed of a bone called the mandible. On both skeletons, color the cranium (A) red, the maxilla (B) grey, and the mandible (C) pink .

The differences between the bird and human skeleton are very apparent in the pectoral girdle, which is the place where the forelimbs attach to the spine. The bird's forelimbs are wings and must have a strong support system. The collarbone of the bird is fused to form the furculum, or wishbone. The "shoulder blade" of the human is actually a bone called the scapula, birds have a scapula and they also have an additional shoulder bone called the corocoid. On both skeletons, color the scapula (K) dark brown. On the bird, color the furculum (J) black and the corocoid (L) light brown. On the human, color the collarbone (J) black .

Another obvious difference between the human and bird skeleton is the shape and size of the sternum. A bird's sternum is large and positioned under the body - flight muscles attach to this bone. The ridge of the bird's sternum is called a keel. The ribs are attached to the spine and to the sternum. On both skeletons, color the sternum (H) red and the ribs (R) blue .

On the bird, trace the edge of the sternum in green to show the keel (I) .

The vertebrae of the bird and human are similar except for the bone where the tail feathers attach, called the pygostyle. Humans have a tailbone that is similar, but it is not pictured. Color the vertebrae (D) yellow and the pygostyle (Q) purple .





COMPARING BIRDS AND REPTILES



	have feathers	have skin scales	are warm blooded	are cold blooded	lay eggs	breathe air	have backbone	live land	live water
birds									
reptiles									

QUESTIONS TO ASK

- | | |
|---------------------------|------------------------------|
| Do birds have feathers? | Do reptiles have feathers? |
| Are birds warm-blooded? | Are reptiles warm-blooded? |
| Are birds cold-blooded? | Are reptiles cold-blooded? |
| Do birds lay eggs? | Do reptiles lay eggs? |
| Do birds breathe air? | Do reptiles breathe air? |
| Do birds have a backbone? | Do reptiles have a backbone? |
| Do birds live on land? | Do reptiles live on land? |
| Do birds live in water? | Do reptiles live in water? |



Birds have feathers but reptiles do not have feathers, they have skin and scales.
 Birds are warm-blooded but reptiles are cold-blooded.
 Both birds and reptiles lay eggs.
 Both birds and reptiles breathe air.
 Both birds and reptiles have a backbone.
 All birds live on land and some need the water for food.

COMPLETE THE TABLE , WRITE ALL THE QUESTIONS, THEN WRITE A PARAGRAPH WITH AND, BUT, BOTH

	Have eyes front	have eyes side	have 2 legs	have 4 legs	are herbivorous	are carnivorous	fly sky	crawl ground
birds								
reptiles								

QUESTIONS TO ASK - Complete all the questions. Then write a paragraph using the answers from these questions.

- Do birds __have eyes in the front of their head__?
- Do birds _____?
- Do birds _____?
- Do birds _____?
- Are birds _____?
- Are birds _____?
- Do birds _____?
- Do birds _____?

- Do reptiles _____?
- Do reptiles _____?
- Do reptiles _____?
- Do reptiles _____?
- Are reptiles _____?
- Are reptiles _____?
- Do reptiles _____?
- Do reptiles _____?

5th Grade Science May 14 Handout

Directions: Read the passage about Frogs and Toads and answer the questions.

Frog or Toad?

Frogs and toads are closely related amphibians. In fact, in the scientific classification of animals, all species of toads are classified as frogs first. In this classification, there are species that are considered to be “true frogs” (family Ranidae) that look and act like the green, leaping, water amphibian that we call a frog. There is also a classification called “true toads” (family Bufonidae) that look and act like the brownish, bumpy-skinned terrestrial (living on land) creature that we identify as a toad. There are nearly 700 species of “true frogs” and about 350 species of “true toads.” But there are nearly 5,500 species of frogs and toads on earth. This means that there are many more frog and toad species mixed together that belong to branches of the amphibian family tree. Yet, there are distinct differences between “true frogs” and “true toads.”

Visible differences include skin: frogs have smooth, wet skin while toads have dry, bumpy skin. Most frog species have greenish or blackish colored skin and toads are usually brownish or tan with black bumpy spots. Frogs have a thinner, streamlined body for swimming and toads are plumper. Frogs have webbed feet for swimming and toads have feet designed for walking on the ground. The hind legs of frogs are longer than their front legs so the frog leaps wherever it goes when on land. The hind legs of toads are shorter than those of frogs; toads are said to hop. In general, a toad travels a shorter distance with each hop than a similar sized frog leaps.

There aren't any frogs or toads in the Polar Regions; the Polar Regions are too cold for cold-blooded amphibians to live there. Otherwise frogs can be found on all continents except Antarctica but there are no native toads on the Australian continent, on the island of Madagascar off the eastern coast of Africa, and the Polynesian Islands in the Pacific Ocean. Frogs cannot live in the desert but there are species of toads that are adapted to the desert environment. There are many species of arboreal frogs, frogs that are adapted to living in trees, but there are just a few arboreal toads.

Some species of frogs and toads are poisonous as a defense mechanism. These amphibians have colorful skin to warn predators. Frogs emit poison through the skin but toads exude toxin through parotid glands in the head.

Frogs and toads are both classified as: a. Amphibians b. Reptiles c. Fish d. Lizards	About how many species of frogs and toads are there? a. 1,500 b. 2,500 c. 4,500 d. 5,500	“True frogs” have a body designed for: a. Hopping b. Walking c. Swimming d. Burrowing
Which of the following describes the habitat of frogs and toads? a. Frogs and toads are adapted to extremely cold environments b. Frogs and toads live in North America c. Frogs and toads are native to Australia d. All of the above	How is the skin of a frog different from the skin of a toad? a. Toads are usually greenish; frogs are usually tan b. Toads have bumpy skin; frogs have smooth skin c. Toads have smooth skin; frogs have bumpy skin d. Toads have wet skin; frogs have dry skin	Which of the following describes poisonous frogs and toads? a. Poisonous frogs and toads are colorful b. Poisonous frogs emit toxins through the skin c. Poisonous toads emit toxin through parotid glands d. All of the above

5th Grade Science May 15 Handout

Directions: Read the passage about Whales and Fish and answer the questions.

Whales & Fish

Fish and whales are both vertebrates, which means they both have backbones. They also live in aquatic environments. Except for a couple of species, whales live only in the ocean water. Fish, however, inhabit both fresh and saltwater. Whales are among the largest animals on Earth, and some fish can be among the smallest.

Being mammals, whales are warm-blooded. This means they must maintain a constant and warm body temperature. Fish, on the other hand, are more like reptiles. Most are cold-blooded. This means their body temperature changes to match the surrounding water.

Whales have a thick layer of fat called blubber under their smooth, almost hairless skin. This fat helps them retain their body heat. Fish have very little fat, which is why many fish are prized as food. To keep from freezing in the cold water, fish blood contains an antifreeze substance. Fish are also covered with a slimy material that helps protect their skin from salt or other chemicals in the water.

Though whales are mammals and fish are not, they are similar in some ways. Both have fins and a tail, which helps them swim and stay upright in the water. But these similarities are in appearance only. Whales move their body through the water with the help of their horizontal tail, which flaps up and down to propel them through the water. Fish, on the other hand, have vertical tails, which move from side to side. Even though whales are huge creatures, they can reach astounding speeds when swimming. Killer whales can swim up to 37 miles per hour; some dolphins move at speeds of 18 miles per hour, while the large Fin Whale cruises along at 13 to 16 miles per hour. Right Whales and Gray Whales are somewhat slower, with a top speed of about 6 miles per hour. How fast fish swim depends on the size and shape of the fish. Herring, a small fish, swims at only 3 miles per hour. Swordfish are the speedsters. They have been clocked at 60 miles per hour. Both whales and fish will swim at high speeds if they are chasing or escaping an enemy. It requires too much energy to swim fast all the time.

Whales can dive deeply and stay underwater a long time. The Sperm Whale, for instance, can dive to more than 6,500 feet, depths that would crush a submarine. It can also remain under water for up to 90 minutes! Like land mammals, whales have lungs and must come to the surface to breathe through their blowhole, which is located on the top of the whale's head. Fish, on the other hand, breathe by removing oxygen from the water through special organs called gills. A fish will quickly suffocate when removed from the water.

Some characteristics of mammals are that they:

- A. Have scales and lay eggs.
- B. Can adjust their body temperature to match the water temperature.
- C. Can swim very quickly.
- D. Are warm-blooded and have lungs.

What does the word propel mean in this passage?

- A. To keep horizontal.
- B. To move or push forward.
- C. To keep the air pressure constant.
- D. To stabilize or hold upright.

The main idea of this passage is:

- A. How whales and fish are different and similar.
- B. How whales swim.
- C. Why whales can stay underwater longer than fish.
- D. How fish and whales use oxygen.

A fish will die if removed from water because

- A. The fish's internal organs will be crushed by air pressure.
- B. The anti-freeze in the fish's blood will quit working.
- C. A fish's gills cannot remove oxygen from the air.
- D. The air pressure will burst the fish's lungs.

What protects a fish from freezing in very cold water?

- A. A layer of slimy material coating the fish's skin.
- B. A layer of blubber.
- C. An antifreeze substance in the fish's blood.
- D. Fish normally stay in warm water to prevent freezing

Name: _____

Potential or Kinetic?

Potential Energy is stored energy and is waiting to work.

Kinetic Energy is energy that is working.



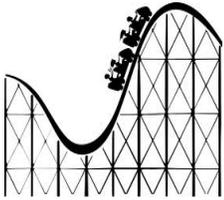
The apple in the tree is _____ energy.

The apple falling from the tree is _____ energy.



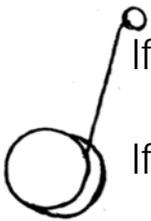
If the rubber band is still it is _____ energy.

If the rubber band is stretched it is _____ energy.



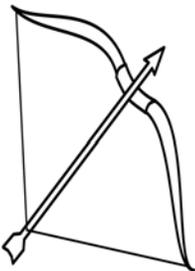
If the roller coaster is still, it is _____ energy.

If it is moving, it is _____ energy.



If the yoyo is still at the top, it is _____ energy.

If the yoyo is moving, it is _____ energy.



If the bow string is still it is _____ energy.

If the bow string is pulled it is _____ energy.



RC Car Kinetic Energy

1. Examine the table below. Draw connections between the data presented and what you have learned so far about the relationship between kinetic energy, mass, and speed.

Row	RC CAR MASS	RC CAR SPEED	CAR KINETIC ENERGY AMOUNT (1=LOW, 20=HIGH)
A	3kg	5 mph	2
B	3kg	10 mph	4
C	5kg	5 mph	4
D	5kg	10 mph	8
E	7kg	5 mph	8
F	7kg	10 mpg	16

1. An RC Car weighing 3 kg at 5 mph has a relatively low kinetic energy amount. Why does the car's kinetic energy go up in row B?
2. An RC Car weighing 5 kg at 5 mph also has a relatively low kinetic energy, although it is higher than the 3 kg RC at 5 mph. Why is Row C's RC car's kinetic energy lower than Row E's at 5 mph?
3. There is a pattern between mass, speed, and kinetic energy amount. What is the pattern? Explain. *pay special attention to how the kinetic energy goes up or down in comparison with speed*

Inertia

A bicycle will stay in motion, if you keep pushing the pedals, right? Or, if you hold your eyes closed, they will remain closed until you use force to move your eyelids, right? It is only when you put force on the brakes, that the bike stops moving. If you keep pushing the pedals, and never push the brakes, your bike will continue its motion. The idea that things will continue to do what they were doing, until interrupted by a force, is called inertia. Inertia means that things will continue at their current speed, or state of rest, until some type of force interrupts and changes it. Objects really want to keep doing what they're already doing. They will resist the change that happens when a force interrupts. When you put force on you bicycle brakes, but it continues to move for a moment before stopping, it is because it resists changing. The bike wants to continue its motion, and this is the rule of inertia. When you are asleep, and your alarm goes off, you might resist waking up or try to keep sleeping. An object at rest wants to stay at rest. This is another example of the rule of inertia.

1. If you keep pushing your bike pedals, your bike will:

- a. Stay in motion b. Inertia c. Stop after a while

2. If an object is at rest, it wants to :

- a. Start moving b. Stay at rest c. Use force to change

3. Why might you want to keep sleeping and ignore your alarm?

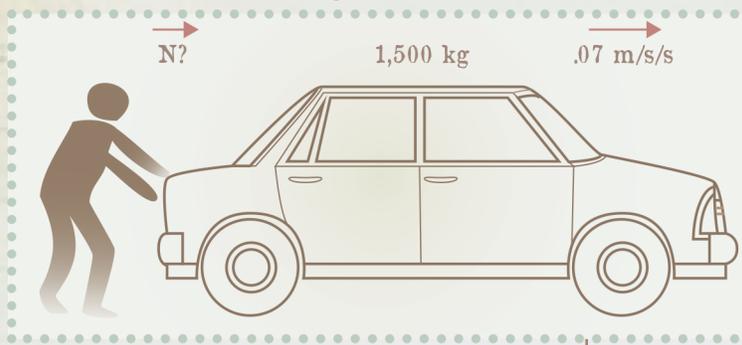
- a. Rule of Inertia b. Rule of rest c. Rule of interruption

4. What must happen to interrupt an object in motion or at rest?

- a. Inertia b. Alarm clock c. Force

Newton's Second Law The Law of Acceleration

ACCELERATION is produced when a force acts on a mass. The greater the mass of the object being accelerated, the greater amount of force needed to accelerate the object.



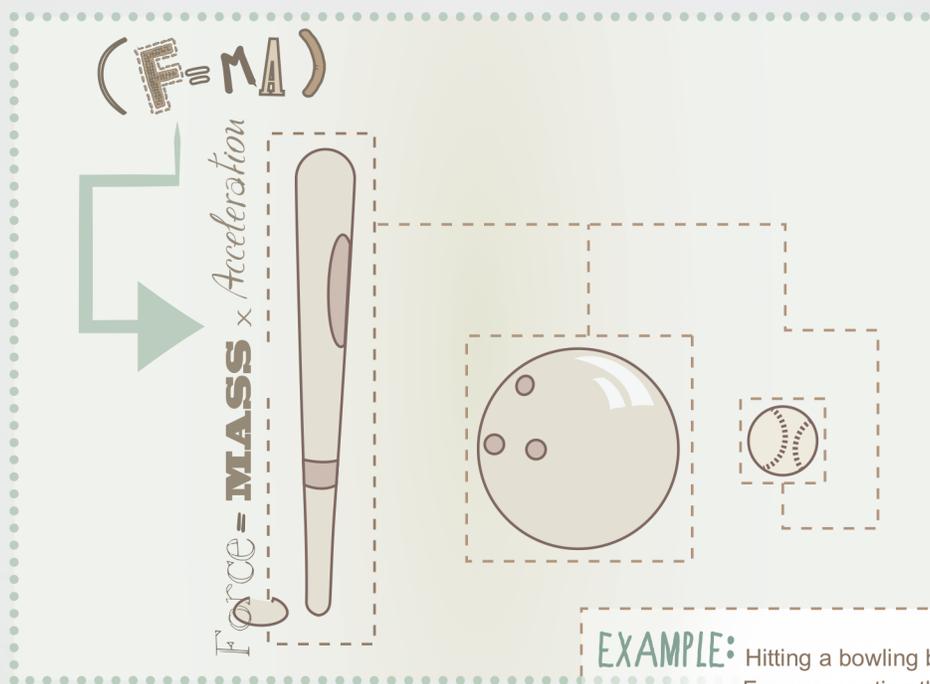
Phillip's car, weighs 1,500 kg. He just ran out of gas and needs to push the car to a gas station and he makes the car go 0.07 m/s/s. Using Newton's Second Law, how much force is Phillip applying to the car?

$$F = MA$$
$$F = 1,500 \times 0.07$$

Answer: 105 newtons

THINK ABOUT IT!

The heavier the object the more force you will need in order to move it compared to a lighter objects, which requires less force.



EXAMPLE: Hitting a bowling ball versus a baseball. For every action there is an equal and opposite reaction. When you push an object, it pushes back.

CHALLENGE QUESTION!

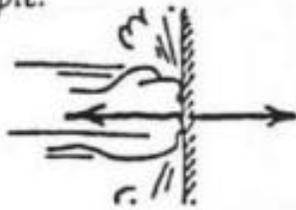
What would happen if you hit a baseball with a bat? A bowling ball?
Describe the difference.

Newton's Third Law of Motion: Action and Reaction Pairs

*Newton's Third Law states that every action has an equal and opposite reaction.

In the example below, the action-reaction pair is shown by the arrows, and the action-reaction is described in words. In (a) through (g), draw the other arrow and state the reaction to the given action. Then, make up your own example for (h).

Example:



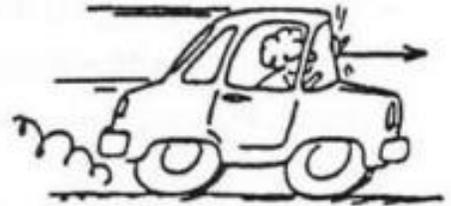
Fist hits wall.

Wall hits fist.



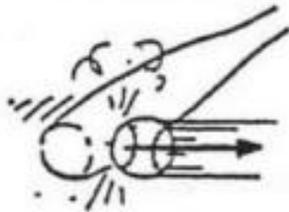
Head bumps ball.

(a) _____



Windshield hits bug.

(b) _____



Bat hits ball.

(c) _____



Hand touches nose.

(d) _____



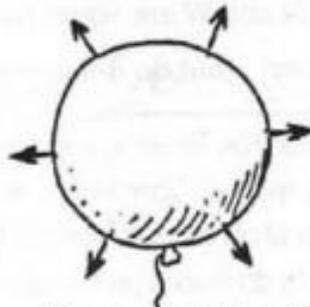
Hand pulls on flower.

(e) _____



Athlete pushes bar upward.

(f) _____



Compressed air pushes balloon surface outward.

(g) _____

(h) _____
