NTI Days 21-25
April 13-17

6th Grade Modified
Mrs. Royse
Mrs. Justice

NTI Days 21-25 Checklist

Day 21

_____ **Math**: Can a number have an opposite? Yes it can! Watch the Khan Academy Video on Opposites of a Number (if you have internet), then try the Khan Academy practice problems on Opposites of a Number. Complete the Opposite of Integers worksheets.

_____ **Reading**: Use your menu to choose one of the two options:
1: MOVIE: Watch a G, PG, or PG-13 rated movie. There will be assignments for the week based off of the movie you choose.
2: READING: Read the attached passage, read a short story of your choice, or use any of the internet links on the back to read a fictional passage.

_____ **Science**: Continue to observe the moon and record what you see. You will study tides for days 21-23. Read, the information at the top of the worksheet, "Spring and Neap Tides" and answer the questions.

_____ **Social Studies**: Read the passage, "Greek Geography and Ancient Greek City-States". Answer the questions with complete sentences and underline where you find the answers in the passage.

_____ **Explore**: See explore menu.

Notes

Day 21- Opposite of a Number

Question: What is the opposite of up?____ The opposite of up is down.

Can numbers have opposites? Yes they can!

The number 4 is four spaces away from zero on a number. What other number is four spaces away from zero on a number line? -4 is also four spaces away from zero on a number line. Each positive integer has an opposite negative integer. Zero is it's own opposite!

Assignment: Watch the Khan academy video on opposites if you have internet access and do the practice problems that go with the video. Then do the Opposite of Integers worksheets.

Examples

Finding the Opposite of a Number

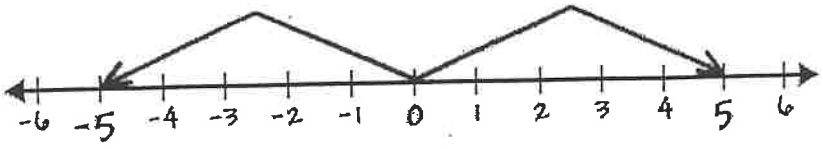
This is really easy... and it's going to be really important in the subtractions lessons for signed numbers.

The opposite of a number is just the number on the opposite side of zero on the number line.

The opposite of **a** is **-a**.

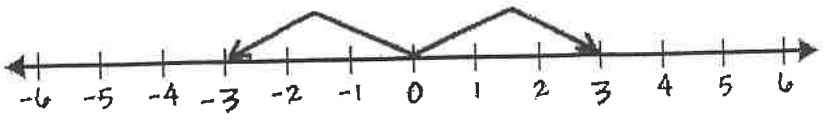
The opposite of **-a** is **a**.

Check it out:



The opposite of **5** is **-5**.

The opposite of **-5** is **5**.



The opposite of **-3** is **3**.

The opposite of **3** is **-3**.

Student Name: _____ Score:

Opposite of Integers

Write the opposite of the integers: (The first one is done for you)

Opposite of 3	-3
Opposite of −4	
Opposite of −9	
Opposite of 6	
Opposite of 4	
Opposite of −1	
Opposite of 9	
Opposite of −2	
Opposite of 1	
Opposite of −8	
Opposite of −3	
Opposite of 2	
Opposite of −5	
Opposite of 7	
Opposite of −6	
Opposite of −3	

Name : _____ Score : _____

Opposite Integers

Sheet 1

A) Write the opposite value of each integer.

1) Opposite of 12 _____

2) Opposite of –25 _____

3) Opposite of –99 _____

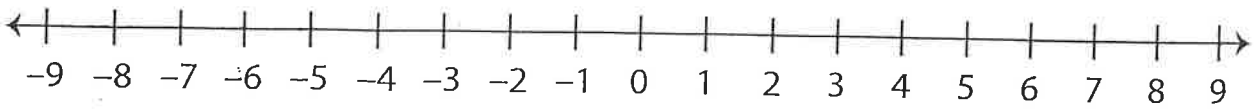
4) Opposite of 4 _____

5) Opposite of 36 _____

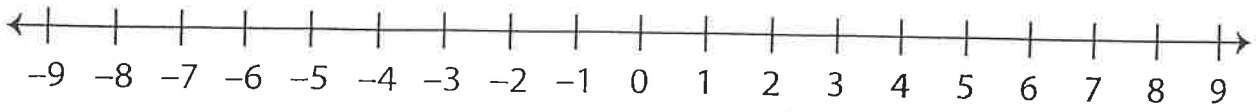
6) Opposite of –57 _____

B) Mark each integer given below and its opposite value on the number line.

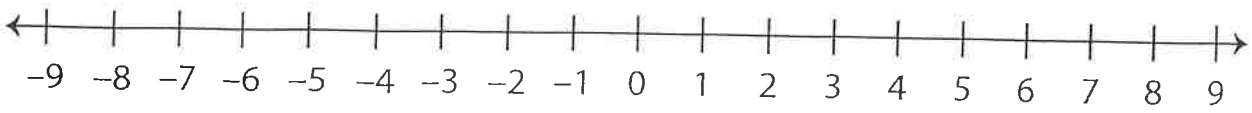
1) 2



2) –5



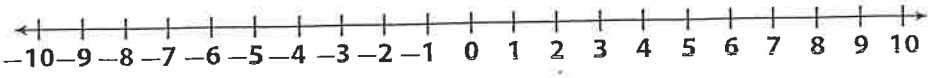
3) 1



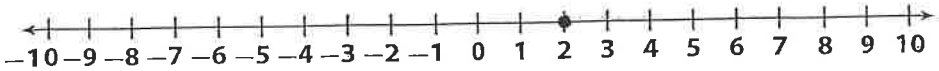
Guided Practice

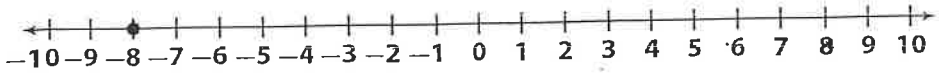
1. Graph and label the following points on the number line. (Explore Activity 1)

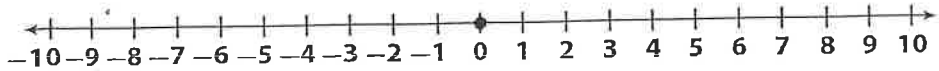
a. −2 **b.** 9 **c.** −8 **d.** −9 **e.** 5 **f.** 8



Graph the opposite of the number shown on each number line. (Explore Activity 2 and Example 1)

2.


3.


4.


Write the opposite of each number. (Explore Activity 2 and Example 1)

5. 4 _____ **6.** −11 _____ **7.** 3 _____

8. −3 _____ **9.** 0 _____ **10.** 22 _____

ESSENTIAL QUESTION CHECK-IN

11. Given an integer, how do you find its opposite?

_____

_____

Reading NTI Days 21-25:

Day 21:	Day 22:	Day 23:	Day 24:	Day 25:
Movie Assignment: Watch a rated G, PG, or PG-13 movie. Movies must follow the rating requirements. Suggested Movie Titles (suggestions only): Aladdin , Lion King, Harry Potter, Willy Wonka & the Chocolate Factory, The Rugrats Movie, Mary Poppins, etc. **-OR-** **Reading Assignment:** Read the passage attached & questions, read a short story of your choice, OR use any of the internet links on the back to read a fictional passage. You may choose the movie option above OR do the reading.	**Movie Assignment:** Write a summary of the movie you watched on Day 21. Your summary should explain the following plot details: - The Exposition (beginning) - The Rising Action - The Climax - The Falling Action - The Resolution (end) The summary should consist of at least 6-10 complete sentences. **-OR-** **Reading Assignment:** Write a summary of the passage you read on day 21 following the above details.	**Movie Assignment:** Complete **ALL** of the following prompts. Each one should be at least 5 sentences. Describe the protagonist (the main character of the movie). Be sure to include strengths, weaknesses, physical appearance, and how they feel. Describe the antagonist (the character in conflict with protagonist). Be sure to include strengths, weaknesses, physical appearance, and mental state of the character. Which character do you like better? Explain why? Why are they in conflict with each other? **-OR-** **Reading Assignment:** Do the above based on your reading passage from Day 21.	**Movie Assignment:** Describe the mood and setting of the movie. Mood is the general feeling a story or movie gives someone. What was the mood, or moods, of the movie you watched on Day 21? Describe how the movie created the mood (lighting, music, weather, etc.). Describe the setting of the movie, but please remember, that the setting is made of TIME and PLACE. **-OR-** **Reading Assignment:** Do the above assignments based on the reading passage you read.	**Assignment Options:** Please pick **ONE** of the following options based on the movie or reading passage you did on Day 21. 1. Graphic Novel: turn your movie or passage into a graphic novel. Also, watch the following clip to help if needed: https://www.youtube.com/watch?v=iPBjrpYU7_0 2. Rewrite the ending! Now is your turn to recreate the movie's end (or passage you read). How would you tell this story? What would you change? 3. Lights, Camera, Action! Film a scene from the movie or create a scene from the reading. Have someone film you (and other actors- social distancing, of course) and email to your ELA teacher. You can do this with a cell phone or other devid 4. Draw any scene from the movie or passage and color it. Mood & setting must be accurate

Internet Options for Reading Passages:

https://www.mugglenet.com/
https://www.eastoftheweb.com
www.scholastic.com/learnathome
www.mobymax.com
https://login.edmentum.com/
https://www.poemuseum.org/poes-works-and-timeline (Edgar Allan Poe short stories and poems)
https://www.readworks.org/

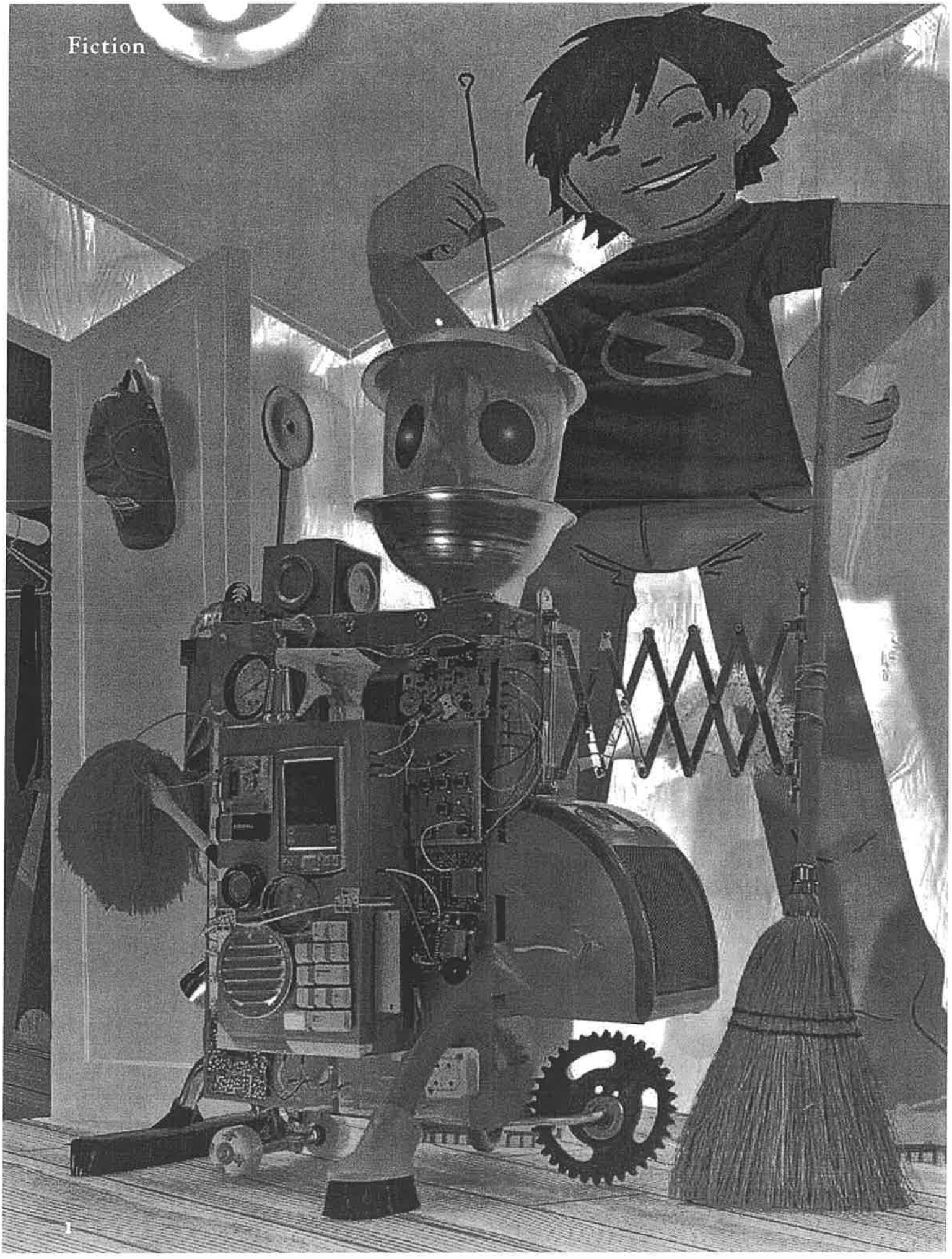
Websites For Reading Games and Reading Fun:

https://www.roomrecess.com/
https://www.classtools.net/arcade/201604_bYVVY2
https://www.seussville.com/play/
https://www.eastoftheweb.com

Recommendations for Family Reading or Extra Reading:

https://www.commonsensemedia.org/book-lists

Websites for Vocabulary Enrichment:
https://www.classtools.net/arcade/201604_bYVVY2
www.freerice.com



UP CLOSE

How Character Changes

Look for how Max is different at the end of this story from at the start. What makes him change?

Clean Start

BASED ON A CHARACTER CREATED BY EVAN ANDERSEN

Max's secret robot is about to make his life easier than ever. What could be wrong with that?

BY MARLANE KENNEDY

Max Welling had been building his robot, Walter, in secret for the past few months. Walter would solve all of Max's problems. Finally, Walter the robot was ready for action!

Walter's eyes blinked on, glowing blue.

"How may I help you?" Walter asked.

Max thought about it. He had an annoying homework assignment—to write a special kind of poem called a haiku. It had to have exactly three lines: five syllables in the first line, seven in the second, and five in the third. Max hated poetry. So why not have Walter write the haiku for him? **Nobody would have to know.**

"Walter, make up a haiku!"

After a few seconds, Walter spoke. "Haikus are stupid. They can be nonsensical. Abominable."

"Tell me about it!" Max said. "But what about my poem?"

Walter fixed his gaze on Max but remained silent.

"Oh!" Max finally said. "Haha! I get it now. Thanks!"

ILLUSTRATION BY DAVE WHEELER

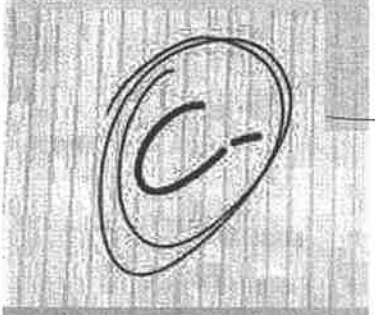
CHARACTER

What does this tell you about the kind of person Max is?

INFERENCE

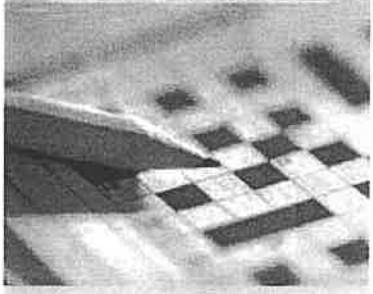
What does Max figure out? (Hint: Count the syllables in the lines Walter just said.)

CHARACTER
What does this tell you about Max?



CHARACTER
How does this support what you've learned about Max so far?

FIGURATIVE LANGUAGE
How is Mr. Gravis like a puzzle?



Max thought Walter was hilarious.

His teacher, Mrs. Hernandez, did not. She gave Max a C- for not taking the assignment seriously, though she did say he could turn in another haiku for extra credit. **Max decided to take the C-.** As far as he was concerned, Walter was a smashing success!

Max was able to build Walter because his father ran a repair shop. His dad worked on whatever customers brought in—old computers, TVs, toasters, grandfather clocks. The family's basement at home was full of extra odds and ends. Max would rummage through them and sneak things into his room. A piece here. A part there.

Max had finished Walter just in time. The repair shop was struggling. More people were buying new things instead of fixing broken ones. His father was taking college classes at night so that he'd be able to find a new job. Meanwhile, his mom had started working full-time at an insurance company. With both his parents so busy, Max had to help out more at home.

In his new routine, he would do assigned chores after school, then walk two blocks to visit his 92-year-old great-grandmother, Matilda, who lived in an assisted-living home. One of his parents would pick him up around dinnertime.

On that first day, Max took the bus home and found the to-do list that had been left for him: put dirty dishes into dishwasher, wipe countertops, sweep floor. **Max could have done the chores lickety-split. But why bother when he had Walter?** Wasn't that what Walter was built for? Max got Walter out of his bedroom closet, where the robot was hidden. He turned him on and told him to do the chores.

"Get back in the closet by five o'clock," Max instructed.

Max left Walter hard at work and headed to his great-grandmother's. Max felt like skipping all the way. No boring chores for him! Walter was the best idea he'd ever had!

Once Max arrived, Grandma Matilda introduced him to a man who had recently moved into the home. His room was down the hall, and his door was open.

"Mr. Gravis, this is my great-grandson, Max."

Mr. Gravis sat in a chair, staring ahead with a stormy expression. He grunted, not bothering to look at Max.

"Poor Mr. Gravis has come out of his room only once," Grandma Matilda told Max as they walked to the recreation area. "He asked me to play chess and won in five minutes! Then he said, 'What's the use?' and went back to his room. He was a nationally ranked player. Guess I'm not challenging enough. He has no family. His friends have passed. I wish I knew how to make him feel better!"

Max and his grandmother stopped by the parakeet cage, got ice cream sandwiches, and then worked on a crossword puzzle. As Max filled in the little squares, his mind wandered to Mr. Gravis. **In a way, Mr. Gravis was also like a**

puzzle that needed to be solved. But he was soon distracted, as he searched for a six-letter word for *dog*.

When Max and his parents got home, his mother gasped. "Wow! The kitchen is sparkling!"

"Proud of you, son," his father said.

"It was nothing," Max shrugged. Which was true. Walter did all the work.

Max felt a twinge of guilt. His parents were pleased. Things were going as planned. But why didn't he feel happier?

The next day, when Max got home from school, he had a new list waiting for him: dust, take out trash, organize game closet, water plants. Max felt guilty as he got Walter out of the closet and turned him on. But he had spent months building Walter, so he certainly wasn't going to let him go to waste! He watched Walter scurry around with a dust rag and reminded him to get back in the closet by five.

Max went to visit Grandma Matilda, and they decided to play chess. As usual, Grandma beat Max. She was the best player Max knew. Mr. Gravis would really have to be a master at chess to have beaten Grandma Matilda in just minutes!

As they were playing, the sky turned dark. Suddenly, it was pouring rain. Lightning flashed and thunder roared. **The stormy sky made Max think of Mr. Gravis. Max hoped he had cheered up.**

"Is Mr. Gravis doing any better?" Max asked as they put the pieces and board away.

Grandma Matilda shook her head sadly.

By the time Max and his parents pulled into the driveway at home, the storm had calmed. Max noticed the trash bags neatly stacked in the bin at the side of the house. He knew he could count on Walter!

But when Max and his parents got inside, they were in for a surprise. The shelves had been dusted, but the board games were strewn about on the floor, their pieces all mixed up. A plant had been knocked over, scattering dirt.

"What happened, Max?" his mother asked.

"Are you upset at having to do a few extra chores?" his father said, looking more concerned than angry.

"No, that's not it! It's just that . . ." Max had to think fast. **"I was organizing the games, and then I knocked over the plant, and I didn't want to be late to go see Grandma Matilda.** I'm so sorry! Really I am! I will pick everything up here in a minute! I promise!"

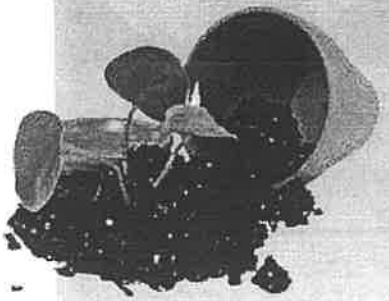
Max ran into his room before his parents could respond. The first thing he noticed was the faint smell of smoke. He threw open his closet door. Walter had coils and wires exposed. His eyes blinked on and off, on and off. Max thought of the storm. Poor Walter must have been struck by lightning when he stepped outside with the trash.

"How help you I may?" Walter sputtered, all jumbled up.

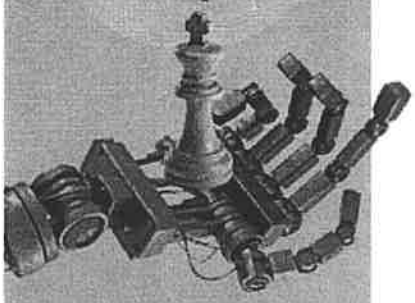
INFERENCE
Why is Max feeling guilty?

HOW CHARACTER CHANGES
How does this show that Max is starting to change?

CHARACTER
How do you think Max feels when he tells his parents this?



PLOT
How does this moment change the action of the story?



Max turned Walter off. The robot's eyes dimmed and didn't come back on.

Max spent the rest of the evening straightening up the mess Walter had created. Before bed, he opened his closet door and stared at Walter.

He knew he should probably disassemble Walter and sneak the parts back into the basement. It wasn't right to lie to his parents or have Walter do things he should have been doing himself. Still, the thought of taking him apart made Max sad. He was attached to Walter. That's when he noticed Walter had something in his hand.

A chess piece.

Walter must have picked it up earlier when he was trying to organize the games, before he went berserk.

Max took the piece from Walter.

Then Max had an idea. He took Walter out and began to work on him.

A month later, Max was done keeping secrets. He introduced Walter to his parents. He came clean about having used Walter to do homework and chores. And he announced a new plan for the robot. He'd been working on him nonstop. Finally, today, Walter was ready.

After finishing his chores, Max carried Walter to Grandma Matilda's. Walter was no longer able to walk or clean or write poetry. Max had rebuilt and reprogrammed his robot for just one important job.

Grandma Matilda coaxed Mr. Gravis to come out of his room.

"My grandson has the perfect chess partner for you," she told him.

In the recreation room, Walter sat waiting at a table, his blue eyes lit up and a chess board ready before him.

Mr. Gravis was skeptical, but he relented. "I'll give it a try," he grumbled before sitting down across from Walter.

The first game between Mr. Gravis and Walter lasted for more than 90 minutes. A crowd of residents had gathered to watch, and Mr. Gravis seemed to enjoy the attention. **And when Walter won, Mr. Gravis smiled!** He asked Max how he built Walter, and then he started another game. They were still playing when Max's parents came to pick him up.

"Good job, Walter!" Max said as he left.

Max wasn't sure, but he could have sworn Walter winked one eye at him.

INFERENCE
Why does Mr. Gravis smile when Walter wins?

The next day, Max stood in front of Mrs. Hernandez's desk. "Could you share some of your favorite haikus with me?" he asked. Mrs. Hernandez smiled, got out a book, and read a few of the short poems aloud. Max listened carefully.

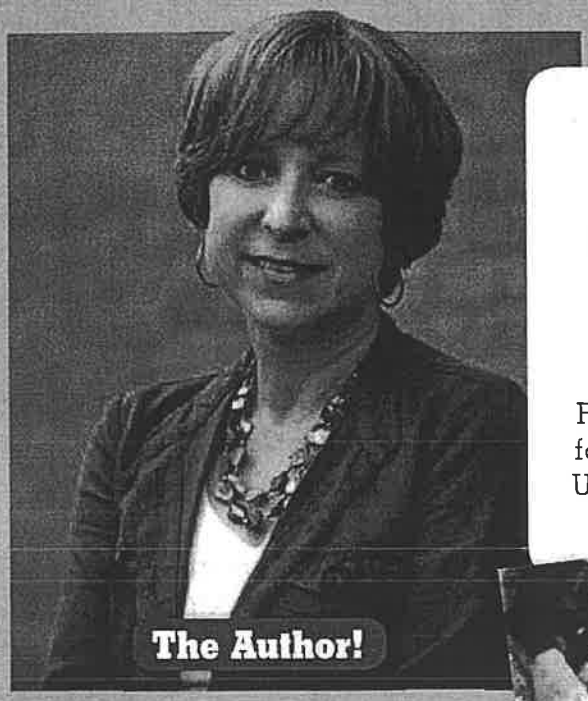
A few days later, Max turned in another haiku for extra credit. It took him a long time to write, but it was his own.

We have no purpose
until connections are made
and happiness sparks. ■

HOW CHARACTER CHANGES
How does this haiku show that Max has changed?

MEET

The "Create a Character" Team!

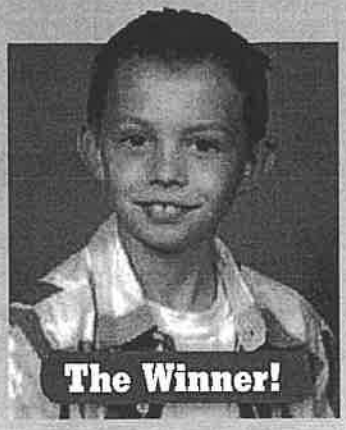


Marlane Kennedy
has written seven books, including *The Dog Days of Charlotte Hayes* and *Me and the Pumpkin Queen.*

Why did you choose this character?
When I was young, robots were considered science fiction. Now they are considered reality! So the idea of a boy building a robot immediately captured my attention.

What was it about Max that you found fascinating?
Reading about Max triggered many questions for me, which is always exciting for an author! Using your imagination to answer questions is what helps you create stories.

We received **2,980** entries for this year's Create a Character contest!



Evan Andersen,
Age 10
James E. & A. Rae Smalley Elementary School
Henderson, Nevada
Teacher: Katherine Stern

What made you think of the character of Max?
I thought of things I like to do. I love to take things apart and put them together again. That gave me the idea to create Max.

How did you think of Max's conflict?
Most of the time my inventions don't work. I thought, "How cool would it be if one worked TOO well?"

What advice do you have for other young writers?
Use your dreams and imagination to come up with crazy, fun, or silly characters and stories. Think of something you'd like to be and then make your characters even bigger and more adventurous!

NTI Completion Sheet: Please review ALL assignment details from the front page!

Day 22: Summary of movie or reading.

Day 23: Character descriptions.
Protagonist Description:

Antagonist Description:

Which character do you like best? Explain your answer.

Why are the characters in conflict?

Day 24: Mood and Setting.
Describe the mood of the movie or story you read. Please give good descriptions as you explain the mood.

If you watch the movie, what film techniques were used to create the mood? Think about weather, lighting, and music.

If you read a story, what elements were used to create the mood? (word choice, dialogue, etc.)

Give a detailed description of the setting. Be sure to include BOTH time and place, please.

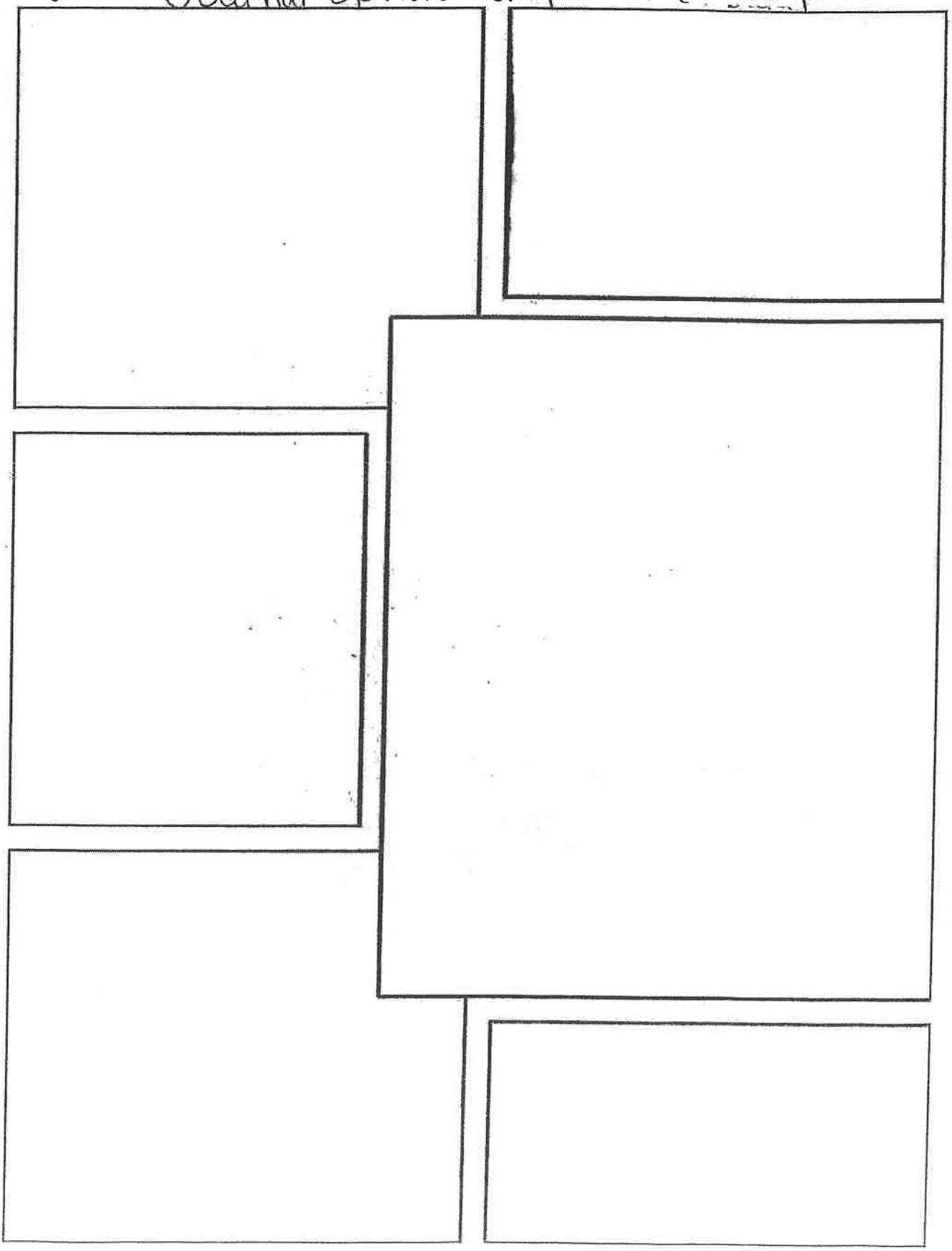
Day 25: You need to complete one of the following options:

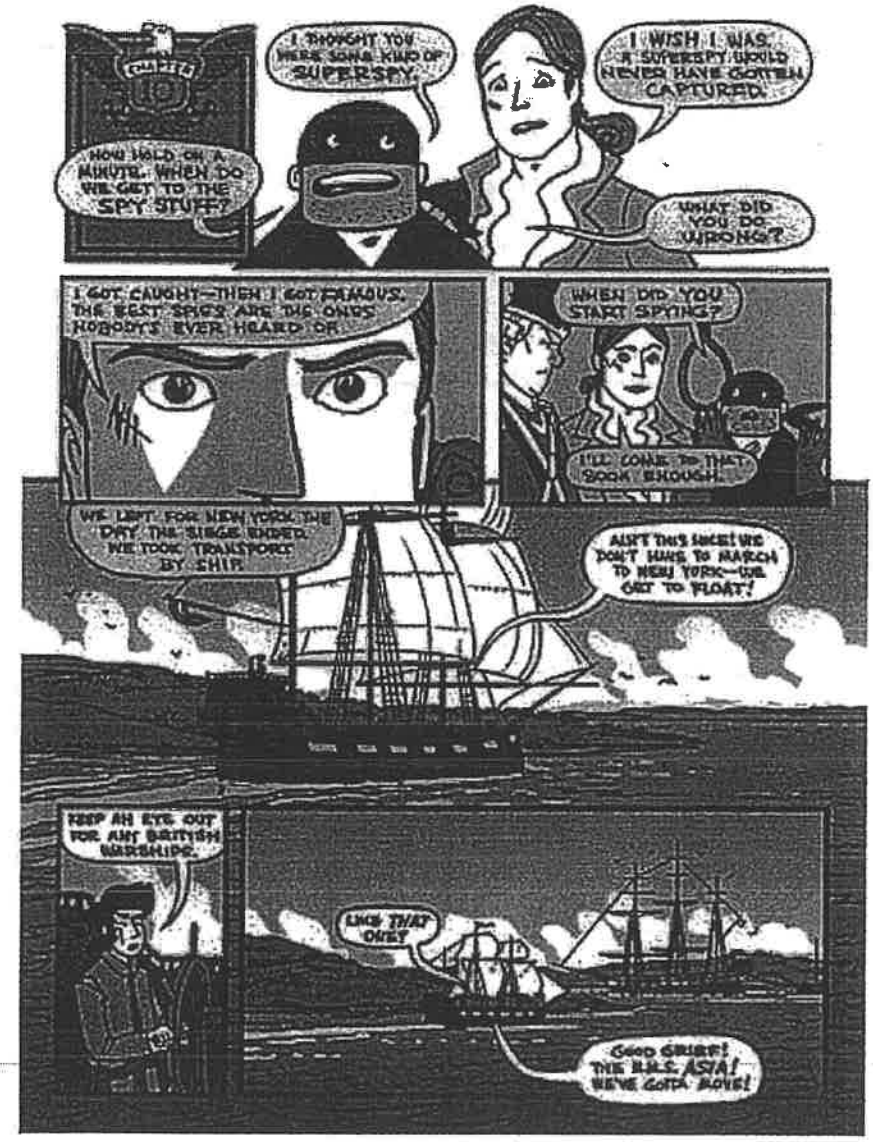
Option1: Graphic Novel Clip of movie or reading. There is a handout attached for that option.
Option 2: Rewrite the ending of the movie or story.
Option 3: Film a scene of any part of the movie or story.
Option 4: Draw a scene.

**Options 2-4 can be completed on the back of the Movie Analysis Worksheet.
****Please read your assignment sheet again, page one of packet, for more information on the options above!

Day 25: Please complete work here for options 2 through 4. (Choose 1 only)

Day 25: Journal Option Graphic Novel Template





Day 25:
Graphic Novel Option.
This is an example from Nathan Hale to help guide you as you make a graphic novel of the movie you watched or the story you read.

Spring and Neap Tides

A. Spring Tides

When the moon is at its full and new phases, the earth has higher high tides and lower low tides than at other times. These tides are called spring tides and they occur twice a month, when the sun and the moon line up with the earth. The increased effect of the sun's gravity on the earth causes the ocean bulges to become larger.

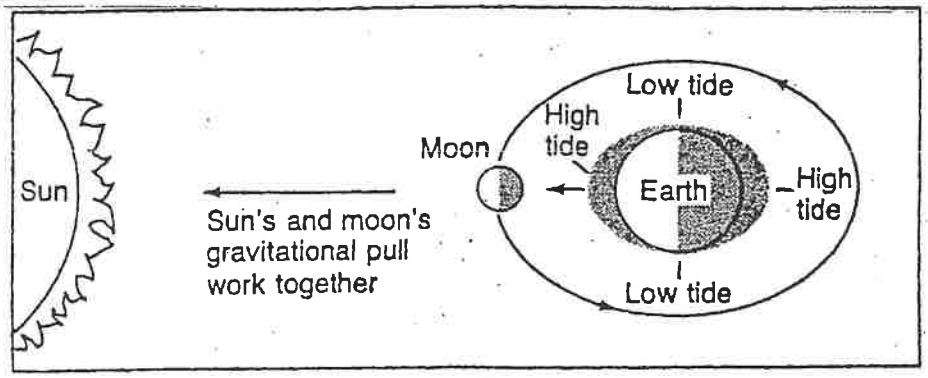


Figure 1 New moon

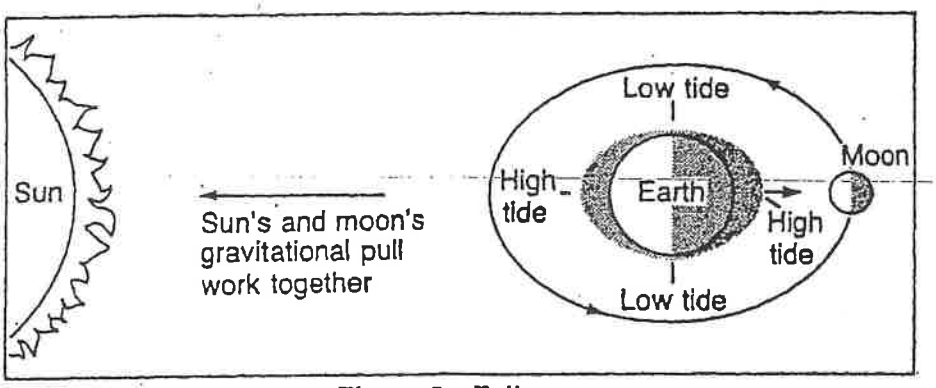


Figure 2 Full moon

1. When are the sun, moon, and earth in a line? _____
2. What happens to the pull of gravity on the earth when the sun, earth, and moon are in a line?

_____

_____

3. What are the unusually high and low tides called? _____

4. How often do the unusually high and low tides occur? _____

5. At which moon phases do the spring tides take place? _____

B. Neap Tides

During the first- and last-quarter phases, the moon's gravitational pull on the oceans is partially canceled out by the sun's gravitational pull. This results in tides that are not very high and not very low. These tides are called neap tides and they occur twice a month.

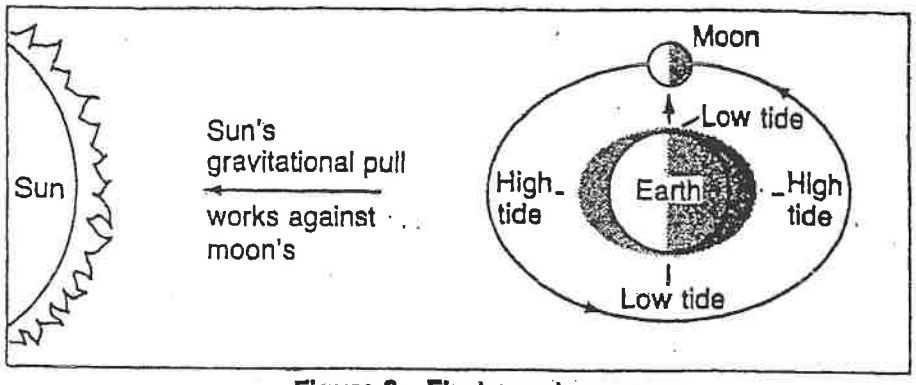


Figure 3 First-quarter moon

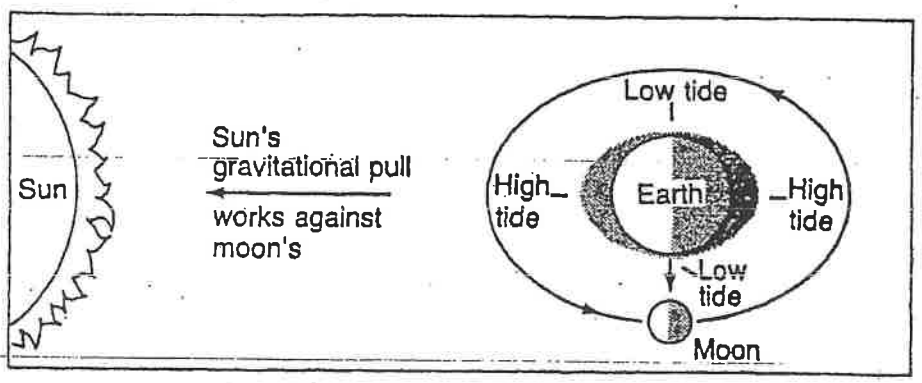


Figure 4 Last-quarter moon

1. When are the moon and sun at right angles? _____
2. What happens to the pull of gravity when the moon and sun are at right angles?

_____

_____

3. What kinds of tides occur when the moon and sun are at right angles? _____
4. What are tides that are not very high and not very low called? _____
5. How often do these tides occur? _____
6. At which moon phases do these tides take place? _____

Greek Geography and Ancient Greek City-States

by ReadWorks

Greece has a long coastline. In fact, it has the second longest coastline of all European countries. Greece is located in southeast Europe. Many people visit the country, especially for its islands. It has more than 2,000 of them!

map of Greece today

Greece is made up of its islands and a mainland. Much of the mainland is bordered by water. To the east is the Aegean Sea. To the south is the Mediterranean Sea, and to the west is the Ionian Sea. Most of Greece's many islands are in the Aegean Sea, but there are islands in the other two seas, too.

The mainland is bordered by several countries to the north and northeast. Albania, Macedonia, and Bulgaria are to the north, and Turkey borders the mainland's northeast. A lot of Greece's mainland is covered by mountains. One example of a group of mountains is the mountain range called the Pindus Mountains. Another example is a smaller group of mountains called the Olympus massif. A mountain called Mount Olympus is in this massif. Mount Olympus is the country's highest mountain. The ancient Greeks believed Mount Olympus to be the home of the gods.

Some experts on ancient Greece think the mountains and seas naturally divided it into many small states called city-states. There were about 1,500 city-states. These city-states were governed as democracies, oligarchies, or monarchies. In a monarchy, the power is in the hands of one person. In an oligarchy, a small group of people or a family rules. In a democracy, the power is in the hands of all the citizens. Sometimes the type of government in city-states changed. For example, the city-state of Athens was run as a democracy for a long time, but there were periods of time it was run as an oligarchy.

Name: _____ Date: _____

1. According to the text, what is Greece made up of?

A. European countries

B. islands and a mainland

C. the Mediteranean Sea

D. groups of mountains

2. How does the text describe Greece's mainland?

A. having many mountains

B. mostly bordered by countries

C. having many islands

D. very flat

3. The land and water of ancient Greece probably provided borders for the city-states.

What evidence from the text supports this conclusion?

A. "Greece is made up of its islands and a mainland. Much of the mainland is bordered by water."

B. "The mainland is bordered by several countries to the north and northeast. Albania, Macadonia, and Bulgaria are to the north . . ."

C. "A lot of Greece's mainland is covered by mountains. One example of a group of mountains is the mountain range called the Pindus Mountains."

D. "Some experts on ancient Greece think the mountains and seas naturally divided it into many small states called city-states."

4. Read these sentences from the text.

> Greece is made up of its islands and a mainland. Much of the mainland is bordered by water. . . .
>
> . . . A lot of Greece's mainland is covered by mountains. . . . Mount Olympus is the country's highest mountain. The ancient Greeks believed Mount Olympus to be the home of the gods.
>
> Some experts on ancient Greece think the mountains and seas naturally divided it into many small states called city-states.

What can you infer about the geography of Greece today and ancient Greece?

A. The geography of Greece today is probably very different from the geography of ancient Greece.

B. The geography of Greece today is probably very similar to the geography of ancient Greece.

C. The geography of Greece today is probably more mountainous than the geography of ancient Greece.

D. The geography of Greece today probably has more islands than the geography of ancient Greece.

5. What is the main idea of the text?

A. Many islands and a mountainous mainland make up the country of Greece, and ancient Greece was divided into many city-states probably because of its geography.

B. A lot of people visit Greece for its more than 2,000 islands, which are located in the Aegean Sea, Mediterranean Sea, and Ionian Sea.

C. Much of Greece's mainland is covered by mountains, including the mountain range called the Pinus Mountains and a group of mountains called the Olympus massif.

D. The city-states of ancient Greece were governed as democracies, oligarchies, or monarches, and the governments of some city-states changed among the three types.

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8th grade: @hill8hcm

YOU MUST USE YOUR SCHOOL E-MAIL ADDRESS TO GET ON GOOGLE CLASSROOM

Firstname.lastname@stu.harrison.kyschools.us

Welcome to 6th, 7th, and 8th grade

Explore

Fine dining restaurant for a well-rounded mind.

NTI 21-25

Choose 1 of the following activities to complete during the week of April 13th through the 17th.

Each student in the school must complete this assignment!

Appetizer

Health

Explore the ins and outs of infectious disease and discover how to prevent the spread of diseases!

Main Course

Art

Explore the 5 purposes for art while incorporating your experiences with COVID-19!

Dessert

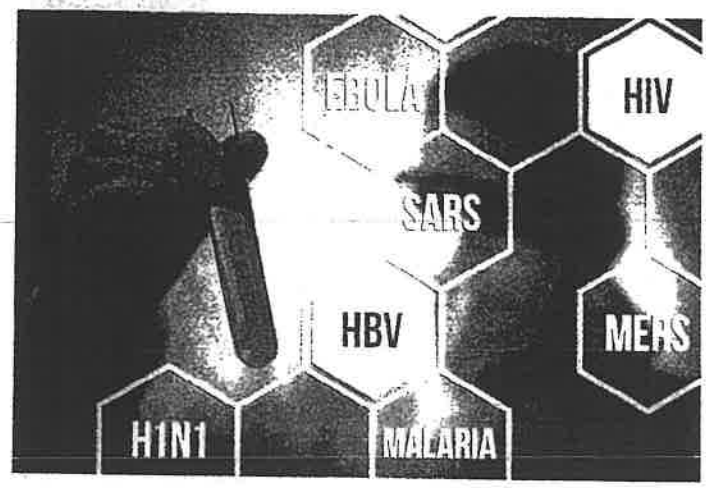
Music

Explore the excitement of product creation while making your own instrument using recycled items!

Contact information for each teacher found on the next page!

NTI Days 21-25
HEALTH

INFECTIOUS DISEASE



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Infectious vs. Noninfectious Disease

Infectious diseases are diseases caused by pathogenic microbes (pathogens) such as bacteria, viruses, protists (protozoa), and fungi. As such, they have the ability to spread from one host to another in a variety of ways. It is important to note, however, that not all microbes are pathogenic. The human body contains thousands of species of bacteria, fungi, and protozoa that are beneficial and important for the proper operation of biological processes such as digestion and immune system function. On the other hand, truly pathogenic microbes have a single goal - survive and multiply at all cost, typically resulting in illness for the host organism.

Noninfectious diseases, by contrast, are diseases that do not involve pathogens. These diseases do not spread from one host to another due to the lack of pathogenic involvement. Noninfectious diseases are typically the result of genetic mutation, environmental conditions (e.g. exposure to the sun's ultraviolet rays), accidents, or lifestyle habits (e.g. smoking, poor dietary choices, lack of exercise).

Types of Pathogens

As stated earlier, pathogens - also sometimes referred to as germs - are microscopic, living organisms that have the ability to cause illness and spread the illness from one host to another. All living organisms fall into one of two categories depending on the fundamental structure of their cells: prokaryotes and eukaryotes. Prokaryotic organisms are made up of cells that lack a cell nucleus or any membrane-encased organelles. Most prokaryotes are unicellular (made up of one cell) but a few are multicellular. Bacteria belong to the prokaryotic group. Eukaryotic organisms are made up of cells that possess a membrane-bound nucleus containing genetic material (DNA). All animals are eukaryotes. Pathogenic eukaryotes include fungi and protozoa. There are four major types of pathogens: bacteria, viruses, protozoa, and fungi.

Bacteria are single-celled organisms that cause disease by producing toxins. They are responsible for diseases such as strep throat, pneumonia, tuberculosis, and cholera to name a few. Endotoxins are components of the bacterial cell wall that are released as a result of the deterioration or death of the bacteria. These toxins can cause symptoms such as fever, changes in blood pressure, septic shock, organ damage, and death. Exotoxins are produced and released into the environment by the bacteria. There are three types of exotoxins - cytotoxins, neurotoxins, and enterotoxins. Cytotoxins damage and destroy certain types of body cells. *Streptococcus pyogenes* (bacteria that causes strep throat) produces a cytotoxin capable of destroying blood cells, damaging capillaries, and producing symptoms associated with flesh-eating disease. Neurotoxins are poisonous substances that affect the nervous system and brain. *Clostridium botulinum* (botulism) releases a neurotoxin that causes muscle paralysis. Enterotoxins affect cells of the intestines and are capable of causing severe vomiting and diarrhea. *Escherichia* (E. coli) is a typical enterotoxin-producing bacteria.

Viruses are the smallest of all pathogens and can cause a multitude of diseases ranging from the common cold, the flu, the recently discovered novel coronavirus (COVID-19), Ebola, and AIDS. Viruses are unique in the sense that they are not living cells but are, instead, segments of DNA or RNA encased within a protein envelope. They infect certain body cells, high-jacking the cell and causing it to produce more viruses at a rapid rate. The influenza virus, for example, infiltrates the respiratory system's tissues resulting in symptoms that make breathing difficult. The rabies virus attacks central nervous system tissues (brain) and the hepatitis viruses have an affinity for the liver. HIV, which leads to the disease known as AIDS, attacks the $CD4^+$ lymphocytes of the immune system.

Fungi are eukaryotic organisms such as yeasts and molds. Fungal infections tend to be rare in humans and are typically the result of a breakdown of a physical barrier (skin, mucus membrane) or a compromised immune system. Skin diseases such as athlete's foot and ringworm are caused by fungi. Some fungi, such as Histoplasma, can cause lung disease while others, such as Stachybotrys (black mold) and Aspergillus, can release neurotoxins that may lead to serious central nervous system disease.

Protozoa are tiny multicellular organisms of the animal Kingdom Protista that cause disease in humans by parasitically feeding off of their host. Protozoa are commonly transmitted to humans through contaminated soil, food, or water. They can also be transmitted by animals as well as insect vectors. Malaria is a common disease caused by the protozoa *plasmodium* which is transmitted by a mosquito bite. The amoeba *Naegleria fowleri* is a protozoa commonly found in freshwater habitats that has been referred to as the brain-eating amoeba due to causing the disease called primary amebic meningoencephalitis.

Infectious Disease Modes of Transmission

Pathogens can be spread in a variety of ways. **Direct contact** involves the spread of pathogens by direct body-to-body contact. This can happen when a person with an infectious disease touches, kisses,coughs, or sneezes on someone who isn't infected. Pathogens can also be spread directly through the exchange of body fluids from sexual contact.

Indirect contact involves contact with a surface or substance that is contaminated with pathogens. Many germs can linger on an inanimate object, such as a tabletop, doorknob, or faucet handle.

Other forms of pathogen transmission include:

- **Animal to person (zoonotic).** Being bitten or scratched by an infected animal can lead to disease. Handling animal waste can also potentially lead to disease transmission. For example, you could potentially get a toxoplasmosis infection by scooping your cat's litter box if not done properly.
- **Mother to unborn child.** A pregnant woman may potentially spread infectious diseases to her unborn baby. Some germs are capable of passing through the placenta. Others can be spread through breastfeeding. Some examples of diseases that can be transmitted this way are AIDS, Zika, and syphilis.
- **Insect bites.** Some pathogens rely on insect vectors - such as mosquitoes, fleas, or ticks - to move from host to host. Mosquitoes can carry diseases such as malaria, the Zika virus, and West Nile Virus. Fleas played a major role in the Black Death (bubonic plague) pandemic of the mid 14th century that wiped out nearly a third of Europe's population. Deer ticks may carry the bacteria responsible for Lyme disease.
- **Airborne.** Highly contagious diseases such as the common cold, influenza, and tuberculosis can be spread as the pathogen is expelled from an infected person (coughing, sneezing, laughing, breathing). The pathogen can remain suspended in the air and then be inhaled by another person.
- **Foodborne.** Infectious disease can be transmitted through contaminated food. Diseases such as E. coli can be spread by eating undercooked food or through improper cleaning habits before or after handling contaminated foods.
- **Waterborne.** Some infectious diseases can be spread through consumption or contact with contaminated water.

****YouTube Video****

Dr. Anthony Fauci says "everything is on the table" to fight spread of coronavirus; Face the Nation 3/15/20 (11:09)

youtube.com/watch?v=NKwwh2lai2w

Treatment

- **Viral Infections** are typically treated with a **vaccination**. A vaccine is a preparation containing killed or weakened pathogens (such as bacteria or viruses) that is given usually by injection. This injection stimulates the immune system's production of antibodies in order to increase protection against a particular disease.
- **Bacterial Infections** are typically treated with **antibiotics**. An antibiotic is a medicine that is made from substances produced by one microorganism that selectively inhibits the growth of another (penicillin produced by a certain fungi). Some antibiotics are also created synthetically. Antibiotics have no effect on viral infections.

- **Fungal Infections** are typically treated using topical antifungal drugs. Topical antifungal drugs may include gels, creams, lotions, powders, sprays, or shampoos. Antifungal drugs can also be taken orally.
- Treatment for **protozoan infections** tends to vary depending on the type of infection. Oral medications, vaccination (as is the case for malaria), and supportive therapy (to combat the loss of body fluids and possible dehydration consistent with many protozoan infections) are the typical forms of treatment.

Prevention Measures

- **Wash your hands**. This is especially important to do before and after preparing food, before eating, after coming into contact with potentially ill people, etc. A common way that germs can enter the body is when a person touches their eyes, nose, or mouth with unclean hands.
- **Prepare food safely**. To prevent cross-contamination, you should keep counters and other kitchen surfaces clean when preparing food. Foods, especially meat, should be cooked to the proper temperature. Leftovers should also be promptly refrigerated to reduce the risk of bacteria development.
- **Stay home when ill**. This will help prevent the spread of illness to uninfected people.
- **Get vaccinated**. Vaccination can drastically reduce the chances of contracting many diseases such as influenza, measles, chickenpox, etc.
- **Don't share personal items**. You should always use your own toothbrush, comb/brush, and razor. Also, avoid sharing drinking glasses and eating utensils.
- **Practice safe sex or choose abstinence.** It has been estimated that approximately 1 out of 5 Americans may have an STI (some unknowingly). Choosing abstinence virtually eliminates the risk of contracting an STI while practicing safe sex greatly reduces the chances.
- **Travel wisely**. If you plan to travel out of the country, talk to your doctor about any special vaccinations you may need.

****YouTube Video****

Why Dr. Fauci Never Misses a Flu Shot; NIAID 10/16/19 (8:19)

youtube.com/watch?v=nZj9eY5IC98

Answer the following questions using the infectious disease notes.

1. Which is **NOT** a way to reduce the risk of contracting an infectious disease?

   ○ A. choose abstinence
   ○ B. washing your hands often
   ○ C. inhaling pathogens from the air
   ○ D. avoiding contact with infected people

2. Unicellular microorganisms that may cause diseases such as strep throat and E. coli are:

   ○ A. viruses.
   ○ B. bacteria.
   ○ C. fungi.
   ○ D. protozoa.

3. The smallest pathogens which attack only certain body cells causing them to reproduce the pathogen and cause diseases such as the common cold, flu, and AIDS are:

   ○ A. viruses.
   ○ B. bacteria.
   ○ C. fungi.
   ○ D. protozoa.

4. A vaccine:

   ○ A. is used to treat fungal infections.
   ○ B. is used to treat protozoan infections.
   ○ C. is effective 100% of the time.
   ○ D. is used to treat viral infections.

5. About 1 out of every ____ Americans may have an STI:

   ○ A. two (50%)
   ○ B. five (20%)
   ○ C. ten (10%)
   ○ D. twenty (5%)

6. A medicine made from substances produced by another microorganism that slows the growth of bacteria is called a(n):

   ○ A. antibiotic.
   ○ B. vaccine.
   ○ C. antibody.
   ○ D. ointment.

7. How are infectious diseases different from noninfectious diseases?

8. What are 2 strategies that you can use to protect yourself from infectious diseases?

9. According to Dr. Anthony Fauci, what are 2 proactive steps that can and should be taken to prevent the spread of COVID-19?

10. According to Dr. Anthony Fauci, is it possible to contract the flu virus from the flu vaccination? Why or why not?

Can a person still contract the flu virus after being vaccinated?

INFECTIOUS DISEASE RESEARCH

Directions: Choose **one** (1) of the infectious diseases from the following list. Answer the questions fully and completely with regards to the disease that you chose.

- AIDS
- Avian Influenza
- Chicken pox
- Dengue fever
- E. Coli
- Ebola
- Listeria
- Lyme disease
- Malaria
- Measles
- Mononucleosis
- MRSA
- Plague
- Pneumonia
- Polio
- Rabies
- Salmonella
- SARS
- Seasonal flu
- Smallpox
- Strep throat
- Swine flu
- West Nile virus
- Zika

Recommended websites to use include:

The Centers for Disease Control and Prevention www.cdc.gov

The World Health Organization www.who.int

The Mayo Clinic www.mayoclinic.com

The National Institute of Allergy & Infectious Disease www.niaid.nih.gov

Disease Name _____

1. What type of pathogen causes this disease?

   CIRCLE ONE: bacteria virus fungi protozoa

2. What is the name of the pathogen that causes this disease?

3. What are the symptoms associated with this disease?

4. How is this disease spread?

5. What is the treatment for this disease if a person were to catch it?

6. What are the prevention measures for this disease/how do you keep from getting it?

7. What is the estimated number of cases per year for this disease in the U.S.? Worldwide?

8. Where is this disease most likely to be found?

9. Based on your present environmental conditions & location, your lifestyle habits, and your potential risk factors, how likely are you to contract this disease? **WHY?**

10. List one other important fact about the disease you chose that you learned by doing this research assignment. (This answer must be different from anything that you mentioned in the previous nine questions.)

ART-NTI LESSON (EXPLORE TEAM)

In this lesson you will learn about the five purposes of art: Ceremonial, Artistic Expression, Narrative, Functional & Persuasive.

VOCABULARY

***PURPOSES OF ART*==========**

1. **Purposes for creating art**-rules or reasons that art is made. Four purposes: Ceremonial, Artistic Expression, Narrative, Functional & Persuasive).
2. Ceremonial art Purpose-artworks created to support worship ceremonies, rituals and celebrations. (examples: church altars, baptism gowns, totem poles, etc.)
3. Artistic Expression Purpose art-artworks created to express or communicate emotions, ideas and feelings. (these can be any art form and any subject matter).
4. Narrative art Purpose-artworks that tell stories, describe and illustrate experiences, communicate ideas or information and document important or historical events. (examples are historical paintings of events & children's illustrated books).
5. Functional art Purpose-artworks that are artistic objects that are used in everyday life. (examples are: furniture, clothing, jewelry, lamps, automobiles, etc.)
6. Persuasive art Purpose-artworks that promote ideas, philosophies, or products (examples: advertising, marketing and propaganda)

INTRODUCTION OF ART LESSON

Artists make art for many reasons as listed above. During times of historical significance, such as what we are experiencing presently with COVID-19 creative individuals express themselves in response using varied art forms and media.

- Their art might fall into the category above listed as **Narrative Art**-art that tells a story or documents a historical event. They may create a 3D mobile or sculpture reflective of many aspects of the event. They may create a graphic novel or a series of pictures or paintings narrating what took place.
- As well, the art might be categorized as **Artistic Expression**-where the artist is conveying their feelings toward the event and how it makes him/her feel. Maybe they create a portrait of themself or their family to show the emotion of how they expressed their feelings. This might be done with photography, drawings or paintings. The artist might take an approach much like that of artistic expressionist artist, Jackson Pollock, and use significance through the colors of paint and how he applies them to a canvas,
- The art could take on a **Ceremonial** purpose if it is created in some type of a ritual. For instance maybe the artist creates a piece of art that is a charm or piece of jewelry of some sort to be worn as a remembrance of the event & certain actions are performed in the wearing or using of the piece,
- The art could be **Persuasive** in the form of a poster that is promoting proper hand washing or outlines good practice in proper distancing.
- Lastly maybe the art fits into the category of **Functional** as it is a bench placed in a park to signify the historical context but is also useful.

THE ART PROJECT

WHAT YOU WILL DO: Create an artwork or series of artworks reflective of COVID-19 & its impact upon you, your family, our community, our country or our world.

PART ONE: You will create a piece of art or a series of artworks that fulfill one or more of the outlined art purposes (from the other side of this page). You may use any art form (painting, printmaking, drawing, sculpture, mobile, weaving, etc.), depending on what materials you have available to you. It is preferable that you use resources that you already have and not go out and purchase anything new. For instance, why not use toilet paper or paper towel rolls....not only is this a good, usually throw away resource; it also has a lot of significance to the COVID-19 event in that toilet paper and paper towels seem to be something of extremely great value at the moment. Use graphite (pencil), marker, paint, whatever you have if you decide to draw or paint. Remember, you can draw or paint on the backs of food boxes such as cereal boxes if you don't have paper. If you decide to do something using photography you can submit it using technology in the form of a google slide presentation or use google drawing as well-if you have access to technology and know how to use this resource. If you want to use these resources please contact me for help (if you have access to the internet from home).

As mentioned earlier, you could create a graphic novel and make this a narrative work of art. Remember, all of you were introduced to artist/author Nathan Hale (https://www.nathanhaleauthor.com/) earlier this year when we went to the highschool for his assembly. I have placed mini sketchbooks in the front foyer at HCMS for students to pick up. I plan to continue to replenish this as long as I have extra donated paper available.

PART TWO: After you have created your art you will need to submit a paragraph as a reflection about your art work. You can either do so on paper or you may submit it through my google classroom where you will find a goggle form to complete as your reflection. You are welcome to photograph your art and submit it to me through google classroom also and/or Artsonia.com. If you are unable to do so electronically, you will submit the actual art or a photo of your art upon returning to school.

I am very excited about this art project as I believe this will all become a part of history. You are living history right now, whether you realize it or not. And always remember, *"We will get through this, we will be o.k."*.

Best wishes to all of you during this abnormal time. Please connect with me through

- email at debbie.pulliam@harrison.kyschools.us
- google classroom http://classroom.google.com/ using the code vxv5b47
- my teacher website at https://sites.google.com/harrison.kyschools.us/hcmsart/home
- Sign up for Remind: www.remind.com My code is: bbkk38 (NTI-Pulliam-art updates)
- Zoom App: please visit my website & google classroom page, if at all possible, so that you will know when I have scheduled a Zoom meeting. (This allows us to video chat with each other so that I can answer questions & share art related materials)

I will be adding relevant resources to my google classroom & web page throughout, so please visit these and if possible, let me know you have done so.

Happy Art Making, Mrs. Pulliam

Creating a Musical Instrument for Week 21-25

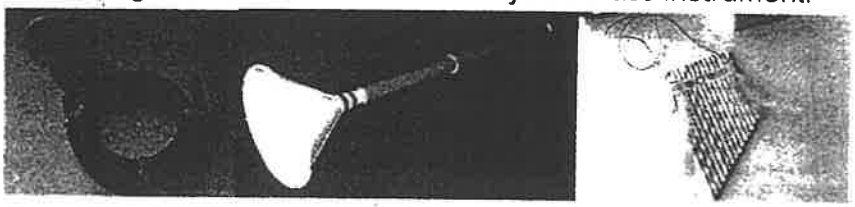
Create your own music instrument from household items. **Ask your parents if the items are okay to use before you repurpose them. :)**

The Percussion Family may be the easiest. **YOU MUST MAKE 2 PERCUSSION INSTRUMENTS IF YOU CHOOSE THIS FAMILY!**

1. Put uncooked rice in a plastic easter egg. Attach a plastic spoon on each long side & tape the two handles of the spoon together then decorate.
2. Stretch a balloon over empty large vegetable cans to make a drum
3. Take 3 Pringles cans and tape them all together and add rice for a rainstick

Wind instruments are more of a challenge but can be done. Make a Brass or Woodwind Instrument (MAKE 1 ITEM ONLY)

1. Take straws and tape them together flat. Cut the bottom so that each is a little shorter than the one before. Play like a flute.
2. Use tubing and a funnel to make a recycled brass instrument.



String Instruments – (MAKE 1 ITEM ONLY)
Take a shoe box, cut a hole in the top and pull rubber bands across the hole.

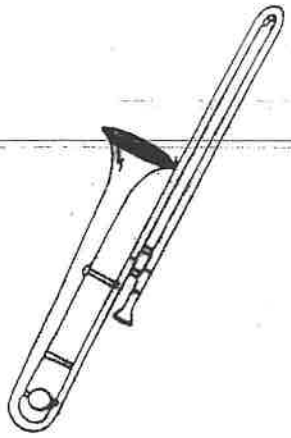

Modify any way you like!!

Feel free to look up other possibilities on the internet! I've even seen a clarinet made out of a carrot. Challenge yourself to make something original.

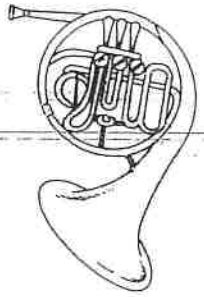
******PART 2 WRITING ASSIGNMENT**

What family is your instrument in & why is it from that family. Name your instrument as if you were creating something knew for that family. Explain how sound is made on your instrument.

Brass Family



The brass instruments, like the woodwinds, are played by blowing air through a tube. Unlike most of the woodwinds, brass instruments do not have reeds. The vibrations of the player's lips cause the air in the tube to vibrate, producing sounds.



Trumpet. The trumpet is the smallest and the highest-pitched of the brass instruments. It has three valves (buttons) that lower the pitch by opening an extra section of tubing. The pitch is lowered because the vibrating air must travel farther before it exits the bell — the end of the tube that flares out.

French Horn. The French horn has its tubing coiled into a circle. If the coil were unwound, the tube would stretch nearly 20 feet! The French horn's bell points backward, and players often put a hand into the bell to change the sound. The French horn is very good at playing both deep and high notes.

Trombone. Unlike the other brass instruments, the trombone does not have valves. Instead, the player moves a slide back and forth to change the pitch. The sound gets lower when the slide is pushed out because the tube gets longer. When the slide is pulled in, the tube becomes shorter and the sound goes higher. The trombone's voice is lower than the French horn's but higher than the tuba's.

Tuba. The tuba has the lowest voice of the brass instruments. Not surprisingly, it is also the largest of the brass instruments. Some tubas have four valves instead of the usual three.

Woodwind Family

All woodwinds are pipes with little holes in their sides. Called "woodwinds" because they all used to be made of wood, they produce sounds when players blow air ("wind") into them. By covering and uncovering the holes, a player changes the length of the column of air in the pipe. It is the length of this column of air that determines the pitch.

Flute and Piccolo. The flute and piccolo are the smallest and simplest woodwinds. They are different from other windwinds in that 1) they are made of metal instead of wood, and 2) they do not have reeds attached to the mouthpiece. In fact, they do not have mouthpieces. One end of a flute or piccolo is closed, and a player blows into a hole in the side of the pipe at the other end. The flute is larger and has a warmer tone than the piccolo. The tiny piccolo produces the highest notes in the orchestra.

Oboe and English Horn. The oboe is made of wood and has a double-reed mouthpiece. The two reeds are shaped so that only a narrow passage for air can get between them. As a result, the oboe produces a strong, piercing tone. The English horn — a little longer and a little wider than the oboe — produces a softer, less piercing tone.

Clarinet. The clarinet is a single-reed instrument that has a very wide range. It can produce sounds from very low to very high. The bass clarinet has a lower, richer tone.

Bassoon. Like the oboe, the bassoon is a double-reed instrument. It is much larger than an oboe and produces some of the lowest tones in the orchestra.

String Family

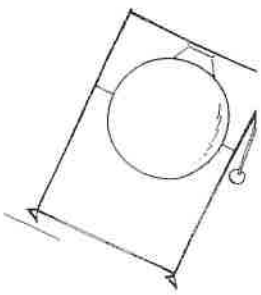
A string makes a sound when it moves back and forth very fast. This is string vibration. The longer a string is, the deeper the sound when it vibrates. You can make a string vibrate by "plucking" it. But the vibration will last longer if you rub the string with a bow.

The violin and cello are the two main stringed instruments played with a bow. Both instruments have four strings. The strings are of different thickness to make different sounds. The thicker the string, the lower the sound when it vibrates. The player stretches each string until it gives just the right sound.

The guitar, harp, and double bass are stringed instruments played by plucking the strings.

Percussion Family

Probably the oldest music makers are objects that make sounds when someone shakes them or hits them. Cave people, no doubt, struck a stretched animal skin with pieces of bone. They used small stones to make rattles. By striking or shaking these objects, prehistoric people created sound waves of a definite pitch or music.



Objects that make music when they are struck or shaken are call percussion instruments. They come in many shapes and sizes. They include all kinds of drums, cymbals, gong, triangle, tambourine, rattles, bell, chimes, and xylophone.

Day 22

_____ **Math**: Moving to Statistics- Mean, Median, Mode, Song. I know you wish you could hear me sing it! Today we will focus on mode. Mode means most!
Assignment: Read the song and complete the fill in the blank page. Watch the Math Antics Video (if you have the internet) : Mean, Median, and Mode. Read my notes and then do the worksheets on mode.

_____ **Reading**: Use your menu to choose one of the two options:
1: MOVIE: Write an 8-10 sentence summary about the movie you watched on Day 21. You should give details about the beginning, middle, and end.
2: READING: Write an 8-10 sentence summary about what you read on Day 21. You should give details about the beginning, middle, and end.

_____ **Science**: Continue to observe the moon and record what you see. Read and answer the questions on the front and back of the Tides Worksheet.

_____ **Social Studies**: If you have the internet, watch the video https://www.youtube.com/watch?v=euZh8KLB5eE

_____ **Explore** See explore menu

Day 22- Moving to Statistics- Mean, Median, Mode, Song. I know you wish you could hear me sing it! Read the song and complete the fill in the blank page. Today we will focus on mode. Mode means most! The mode is one of the easiest things to compute. It is just the number that occurs most often in the data set. So given the data set 2, 3, 2, 1, 2, 4, 4, 2 you would put the numbers in order from least to greatest like this: 1, 2, 2, 2, 2, 3, 4, 4 Which number is there the most of? There are four 2's , one 1, one 3, and two 4's. So the mode is 2. Assignment: Do the worksheets on mode.

Mean, Median, Mode, and Range Definitions NOTES

Mean :

The "Mean" is computed by adding all of the numbers in the data together and dividing by the number elements contained in the data set.

Example :

Data Set = 2, 5, 9, 3, 5, 4, 7

Number of Elements in Data Set = 7

Mean = (2 + 5 + 9 + 7 + 5 + 4 + 3) / 7 = 5

Median :

The "Median" of a data set is dependant on whether the number of elements in the data set is odd or even. First reorder the data set from the smallest to the largest then if the number of elements are odd, then the Median is the element in the middle of the data set. If the number of elements are even, then the Median is the average of the two middle terms.

Examples : Odd Number of Elements

Data Set = 2, 5, 9, 3, 5, 4, 7

Reordered = 2, 3, 4, 5, 5, 7, 9
^

Median = 5

Examples : Even Number of Elements

Data Set = 2, 5, 9, 3, 5, 4

Reordered = 2, 3, 4, 5, 5, 9
^ ^

Median = (4 + 5) / 2 = 4.5

Mean, Median, Mode, and Range Definitions

Mode :

The "Mode" for a data set is the element that occurs the most often. It is not uncommon for a data set to have more than one mode. This happens when two or more elements occur with equal frequency in the data set. A data set with two modes is called bimodal. A data set with three modes is called trimodal.

Examples : Single Mode

Data Set = 2, 5, 9, 3, 5, 4, 7

Mode = 5

Examples : Bimodal

Data Set = 2, 5, 2, 3, 5, 4, 7

Modes = 2 and 5

Examples : Trimodal

Data Set = 2, 5, 2, 7, 5, 4, 7

Modes = 2, 5, and 7

Range :

The "Range" for a data set is the difference between the largest value and smallest value contained in the data set. First reorder the data set from smallest to largest then subtract the first element from the last element.

Examples :

Data Set = 2, 5, 9, 3, 5, 4, 7

Reordered = 2, 3, 4, 5, 5, 7, 9

Range = (9 - 2) = 7

Mean, Median, Mode Song

By INteach6

I got this from a Mailbox magazine a few years ago, but the kids love it! After they learn it we sing it in a round.:)

Sing this to Are You Sleeping?

Mean means average,
Mean means average,
Mode means most,
Mode means most.

Median's in the middle,
Median's in the middle,
Now I know,
Now I know.

Range means difference,
Range means difference,
Big minus small,
Big minus small.

These are all statistics,
These are all statistics,
Now I know,
Now I know.

Sing this to Are You Sleeping?

Mean means _____
Mean means _____
Mode means _____
Mode means _____

Median's in the _____
Median's in the _____
Now I know,
Now I know.

Range means _____
Range means _____
_____ minus _____
_____ minus _____

These are all _____
These are all _____
Now I know,
Now I know.

TURTLE DIARY .com
Re-Imagination of learning

Name: _____

Date: _____

Time: ____ : ____ - ____ : ____

The **mode** is what items or numbers appear most often in a set.

Find the mode for given numbers and write the correct answer on the line below.

Q1. 5, 2, 2, 1, 5, 3

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q2. 2, 7, 3, 2, 1

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q3. 8, 4, 3, 3, 5, 3

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q4. 9, 5, 4, 6, 4, 4

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q5. 1, 2, 3, 3, 4, 5

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q6. 2, 1, 5, 5, 7, 4

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q7. 3, 9, 9, 6, 1, 2

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q8. 10, 20, 4, 3, 14, 3

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q9. 12, 6, 5, 9, 9, 1

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q10. 11, 21, 5, 4, 15, 4

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q11. 8, 18, 2, 1, 12, 1

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q12. 9, 19, 3, 2, 13, 2

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q13. 37, 18, 25, 16, 18, 18

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q14. 39, 20, 27, 18, 20, 20

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q15. 4, 5, 6, 6, 7, 8

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q16. 5,12,13,13,14,15

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q17. 12, 22, 6, 5, 16, 5

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Q18. 8, 14, 14, 10, 10, 10

mode _ _ _ _ _ _ _ _ _ _ _ _ _

Finding Mode

Name:

Find the mode of each set of numbers.

1) 88 , 82 , 81 , 89 , 77 , 95 , 89 , 90 , 81 , 75

2) 76 , 75 , 74 , 72 , 59 , 62 , 77 , 64 , 72 , 71 , 71

3) 82 , 82 , 68 , 71 , 68 , 86 , 67 , 71 , 75 , 66

4) 38 , 47 , 56 , 38 , 56 , 44 , 48 , 55 , 42 , 38 , 36 , 38

5) 65 , 58 , 58 , 57 , 69 , 50 , 58 , 58

6) 67 , 65 , 72 , 76 , 80 , 74 , 74 , 74

7) 32 , 37 , 27 , 41 , 39 , 38 , 25 , 27 , 35 , 21 , 25

8) 51 , 64 , 51 , 65 , 54 , 59 , 70 , 63

9) 89 , 81 , 78 , 91 , 80 , 81 , 84 , 80

10) 77 , 75 , 72 , 77 , 72 , 66 , 72 , 78 , 64

11) 39 , 37 , 47 , 37 , 44 , 35 , 31 , 40 , 32 , 44 , 47 , 37

12) 63 , 78 , 72 , 68 , 63 , 68 , 66 , 71 , 76 , 80 , 71 , 82

13) 11 , 4 , 16 , 16 , 17 , 12 , 6 , 7 , 9

14) 68 , 71 , 63 , 63 , 67 , 65 , 54 , 64 , 73

15) 69 , 70 , 88 , 88 , 88 , 69 , 77 , 73 , 80 , 74 , 74 , 85

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

Name _____ Bell _____ Date _____

Tides Worksheet

The world's oceans are in constant flux. Winds and currents move the surface water causing waves. Ocean levels fluctuate daily as the sun, moon and earth interact. As the moon travels around the earth and as they, together, travel around the sun, the combined gravitational forces cause the world's oceans to rise and fall. Imagine the earth covered completely by water. As the earth spins, this water is balanced evenly on all sides by centrifugal force. The moon has a gravitational pull on this layer of water as it orbits the earth. This pull causes the water to bulge toward the moon. Because the earth is spinning there will be a bulge on the opposite side of the earth as well. As the earth rotates on its axis, each location on the earth will experience both tidal bulges. The areas of high water levels are high tides and the areas of low levels are low tides. The Sun also affects tides, but since it is so much further away from Earth than the moon, the affect the moon has is much greater.

Since the earth and the moon rotate around the sun, there is an added modifying factor. When the sun and moon are aligned, there are exceptionally strong gravitational forces, causing very high and very low tides, which are called spring tides, though they have nothing to do with the season. When the sun and moon are not aligned, the gravitational forces cancel each other out, causing moderate tides. These are called neap tides. Tides vary from day to day, but most places on Earth experience two high tides and two low tides every day (about 6 hours in between each tide).

1. What are tides caused by?

2. Which exerts stronger gravitational pull on earth, the sun or the moon? Why?

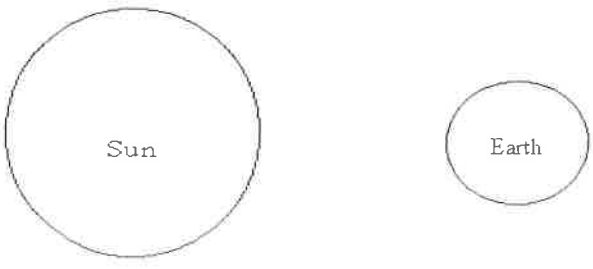
3. What is a spring tide? What position do the sun and moon have to be in to create a spring tide?

4. What is a neap tide? What position do the sun and moon have to be in to create a neap tide?

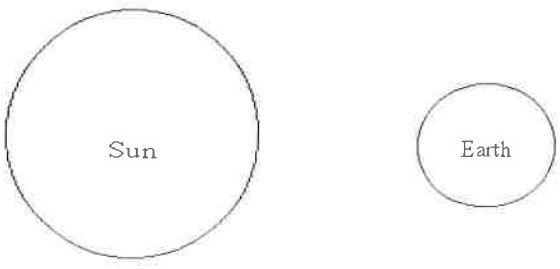
5. In most places on earth, how often do high and low tides occur?

6. Draw the position of the moon during a spring tide and a neap tide.

Spring Tide



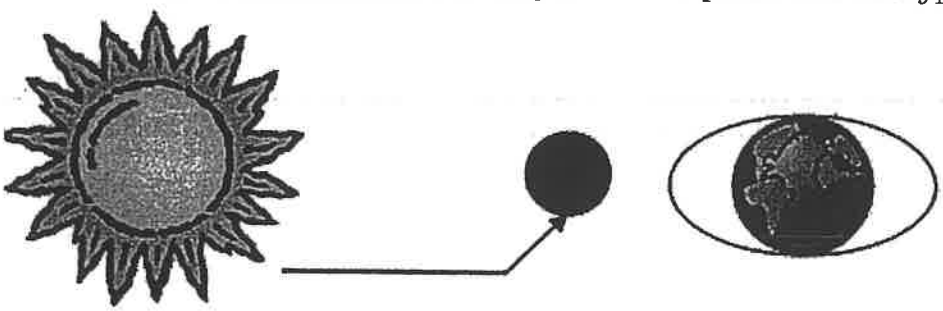
Neap Tide



Spring and Neap Tides

Name_____ Class_____

1. Spring or Neap Tide? (Circle) How do you know? _____
Color in the tides with a blue pencil. During what moon phase does this type of tide occur?



1. Spring or Neap Tide? (Circle) How do you know? _____
Color in the tides with a blue pencil. During what moon phase does this type of tide occur?

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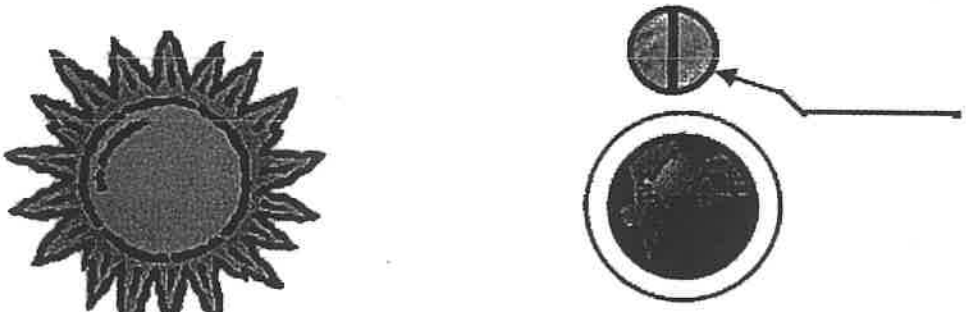


1. Spring or Neap Tide? (Circle) How do you know? _____
Color in the tides with a blue pencil. During what moon phase does this type of tide occur?

Day 23

_____ **Math**: Finding the Mean of a Number:
Assignment: Read my notes and complete the worksheets on Mean. If you need to, watch the Math Antics Video again to refresh your memory on mean.

_____ **Reading**: Use your menu to choose one of the two options:
1: MOVIE: Use the guidelines on your menu to describe the protagonist and antagonist of the movie you watched on Day 21. Use complete sentences to do this.
2: _____**Reading**: Use the guidelines on your menu to describe the protagonist and antagonist of what you read on Day 21. Use complete sentences to do this.

_____ **Science**: Continue to observe the moon and record what you see. Label the diagrams on the Spring and Neap Tide worksheet.

_____ **Social Studies**: Read the passage, "Ancient Greece: Sparta" and answer the questions that follow. Underline where you find the answers in the passage and write your answers in complete sentences.

_____ **Explore**: See explore menu

Day 23- Mean of a set of Numbers

To find the mean of a set of numbers, your order them least to greatest. Then you add up all the numbers in the set. Last, divide by how many numbers there are in the set. So you have the following set of numbers:

2, 1, 3, 4, 4, 1

First, order them least to greatest: 1, 1, 2, 3, 4, 4

Next, add them up: 1 + 1 + 2 + 3 + 4 + 4 = 15

Then, divide by 5. Why 5? Because there are five numbers in the set. 15 ÷ 5 = 3

So, the mean of the set of numbers is 3.

Try the mean practice pages.

Name Date

FIND THE MEAN SHEET 2

Find the mean of these data points.

Question	Total	Mean
1) 4, 6, 2, 8	20	20 ÷ 4 = 5
2) 4, 0, 5		
3) 10, 7, 2, 5		
4) 7, 5, 9		
5) 2, 6, 3, 1		
6) 4, 9, 5, 10		
7) 30, 70, 20		
8) 5, 11, 12, 4		
9) 13, 11, 7, 9		
10) 25, 10, 15, 30		
11) 6, 2, 4, 1, 7		
12) 2, 10, 3, 6, 4		
13) 10, 12, 5, 7, 6		
14) 5, 2, 14, 7, 2		
15) 14, 3, 10, 8, 20		
16) 8, 2, 16, 10		

Student Name: _____ Score:

Mean

L1MS1

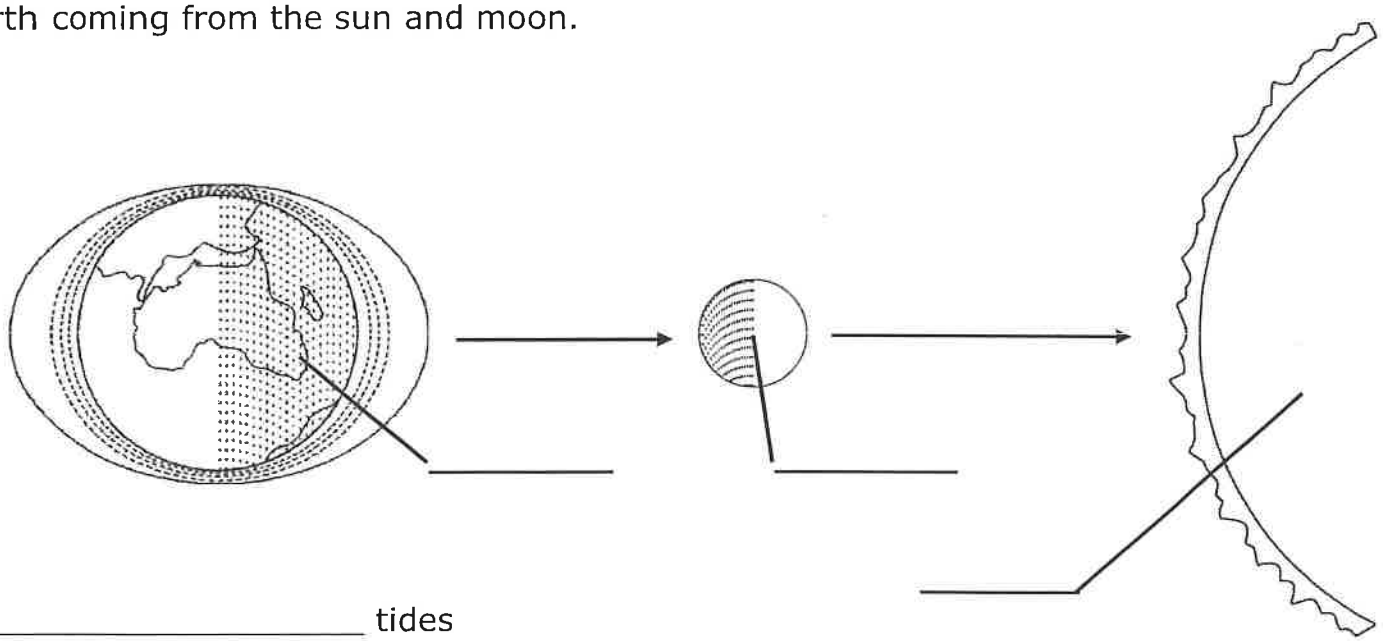
Calculate the mean for the following data points:

1) 7, 5, 4, 3, 2, 3 Mean =	2) 9, 5, 8, 6 Mean =
3) 2, 5, 4, 3, 1 Mean =	4) 9, 6, 8, 5, 2 Mean =
5) 5, 4, 1, 2, 7, 5 Mean =	6) 8, 3, 2, 5, 7 Mean =
7) 3, 5, 2, 1, 4 Mean =	8) 2, 5, 4, 5 Mean =
9) 9, 6, 7, 2 Mean =	10) 6, 3, 5, 2, 4 Mean =
11) 7, 9, 2, 1, 3, 8 Mean =	12) 4, 8, 7, 6, 5 Mean =
13) 2, 4, 1, 5 Mean =	14) 9, 5, 6, 8, 5, 9 Mean =
15) 5, 2, 6, 4, 3 Mean =	16) 2, 7, 5, 3, 8, 5 Mean =
17) 6, 5, 2, 7 Mean =	18) 1, 4, 5, 3, 2 Mean =

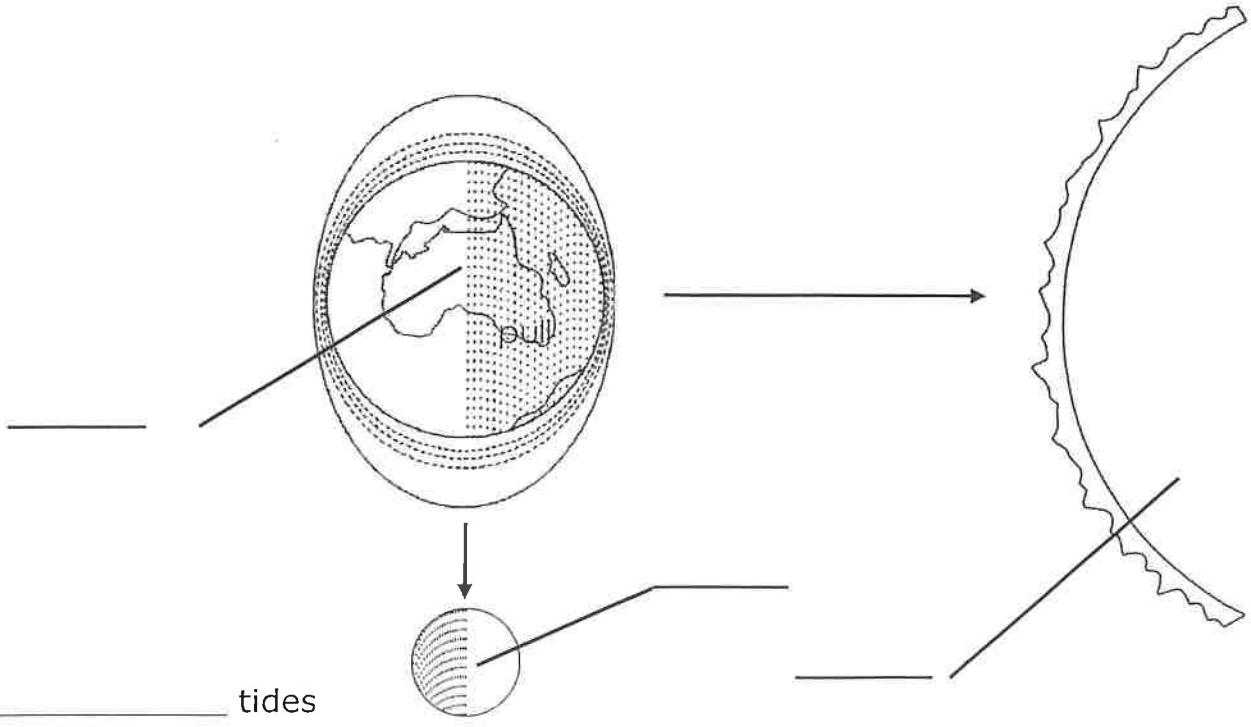
Name _____ Date ____ / ____ / ____

SPRING AND NEAP TIDE

The ocean's tides are caused mainly by the gravitational effects of the moon, but also by the sun to a lesser degree. When the Earth, moon, and sun are aligned, the overall gravitational pull is the greatest and causes the largest tides: spring tides. When the Earth, moon, and sun are at right angles, the pull is minimized and causes the weakest tides: neap tides. Provide the following labels on the figure below: neap tides, spring tides, sun, earth and moon. Also, draw arrows indicating the gravitational pull on the Earth coming from the sun and moon.



_____ tides



_____ tides

Ancient Greece: Sparta

by Dan Stahl

Sparta was the biggest city in ancient Greece. It was also one of the most powerful.

Sparta was known for the strength and bravery of its army. All Spartan men were members of it. They began training at age seven. Boys had to leave home and live together as a group. They were not fed much and lived with few comforts. Today the word "spartan" is used to describe something plain and without comforts.

At the age of 20, men became soldiers. They were given land and slaves to go with it. The slaves were known as *helots*. *Helots* were descendants of people originally from Sparta and the surrounding area. Long ago they had been conquered by the Spartans and forced to become slaves.

Aside from the *helots*, women in Sparta actually had more freedom than elsewhere in Greece. They didn't have to cook and clean; the *helots* took care of that for them. Spartan women instead managed property and competed against each other in athletic events, including wrestling. They were expected to stay healthy so that they would have healthy babies. If a Spartan woman gave birth to an unhealthy baby, it was left outside to die.

Sparta was ruled by two kings. They were in charge of - guess what? - leading the Spartan army.

Name: _____ Date: _____

1. According to the text, what was the ancient city of Sparta known for?

2. Explain how young Spartan boys were trained to become soldiers. Use evidence from the text to support your answer.

3. Explain why the word "spartan" may be used today to describe something plain and without comfort. Use evidence from the text to support your answer.

4. What is a main idea of this text?

5. What can you conclude about the values of the ancient city of Sparta? Use evidence from the text to support your answer.

Day 24

_____ **Math**: Find the Median of a Set of Numbers. If you have the internet, please watch the Youtube video: Find the Median (The Middle Number). Carefully read my notes and complete the practice pages.

_____ **Reading**: Use your menu to choose one of the two options:
1: MOVIE: Use the guidelines on your menu to describe the setting and mood of the movie you watched on Day 21. Use complete sentences to do this.
2: READING: Use the guidelines on your menu to describe the setting and mood of what you read on Day 21. Use complete sentences to do this.

_____ **Science**: Continue to observe the moon and record what you see. If you have the internet, watch the video, What Causes Seasons on Earth.
https://www.teachertube.com/videos/what-causes-seasons-on-earth-657
Read the article, "What Causes the Seasons?" and answer the questions.

_____ **Social Studies**: If you have the internet, watch the five minute video on Alexander the Great.
https://www.youtube.com/watch?v=iwWbD7m28Ro

_____ **Explore** See explore menu

Day 24- Median: Median's in the Middle!

Median is fairly easy if you have an odd number of numbers in the set. Median is the one in the middle. So given the following set of numbers: 2, 1, 5, 7, 3

Arrange the numbers in order from least to greatest: 1, 2, 3, 5, 7

Next, look for the number that is right in the middle of the set. 3 is the number that falls in the middle of the set, so 3 is the median.

If you have an even number of numbers in the set: 1, 4, 2, 6, 2, 5

Arrange the numbers in order from least to greatest: 1, 2, 2, 4, 5, 6

Next, find the two numbers that are in the middle and add them together: $2 + 4 = 6$

Last divide by 2: $6 \div 2 = 3$

3 is the median.

Assignment: If you have the internet, watch the video: Finding the Median (The Middle Number). Read over my notes on Median. Complete the median practice pages.

Name : _____ Score : _____

Median

Sheet 1

Example 1:

Find the median of 12, 34, 8, 16, 25, 3 and 10.

Arrange the data in an increasing order.

3, 8, 10, (12), 16, 25, 34

Middle number is 12.

Median : **12**

Example 2:

Find the median of 5, 14, 22, 35, 20, 15, 6 and 28.

Arrange the data in an increasing order.

5, 6, 14, (15), (20), 22, 28, 35

Middle numbers are 15 and 20.

Median : $\frac{15+20}{2}$ = **17.5**

Find the median for each set of numbers.

1) 23, 37, 11, 58, 13, 45

Median : _____

2) 85, 42, 64, 71, 39, 56, 26

Median : _____

3) 41, 13, 21, 83, 54, 37, 18, 66, 72

Median : _____

4) 53, 22, 76, 46, 68, 32, 15, 29

Median : _____

5) 17, 24, 8, 19, 6, 34, 10, 28, 48, 12

Median : _____

6) 60, 52, 11, 29, 46, 9, 33

Median : _____

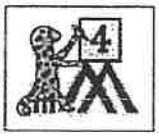
7) The average temperatures across Washington, Texas, Oklahoma, New York, Missouri, Georgia, Hawaii and Michigan are 48°F, 65°F, 60°F, 45°F, 54°F, 64°F, 70°F and 45°F respectively. Find the median.

Median : _____

8) Jack's Science book has ten chapters. The number of pages in each chapter is given below. What is the median?

25, 11, 9, 18, 21, 24, 16, 13, 30, 12

Name Date



FIND THE MEDIAN SHEET 1A

Find the median of these data points.

Odd and even number of data points.

Question	Order	Median
1) 12, 17, 8, 5	5, 8, 12, 17	(8+12)÷2=10
2) 14, 2, 7, 11		
3) 7, 15, 8, 26, 18		
4) 38, 26		
5) 23, 17, 42, 35		
6) 51, 37, 45, 29, 32		
7) 84, 77, 65, 72		
8) 49, 23		
9) 26, 26, 50, 23, 47, 18		
10) 63, 18, 26, 35, 71, 54, 29		
11) 45, 37, 19, 27, 35, 19		
12) 82, 73, 91, 56		
13) 132, 128, 156, 117		
14) 172, 186		
15) 214, 209, 243, 226		
16) 12, 23, 7, 29, 17, 12		

What Causes the Seasons?

The text and images are from NASA Space Place.

It's all about Earth's tilt!

Many people believe that Earth is closer to the sun in the summer and that is why it is hotter. And, likewise, they think Earth is farthest from the sun in the winter.

Although this idea makes sense, it is incorrect.

It is true that Earth's orbit is not a perfect circle. It is a bit lop-sided. During part of the year, Earth is closer to the sun than at other times. However, in the Northern Hemisphere, we are having winter when Earth is closest to the sun and summer when it is farthest away! Compared with how far away the sun is, this change in Earth's distance throughout the year does not make much difference to our weather.

There is a different reason for Earth's seasons.

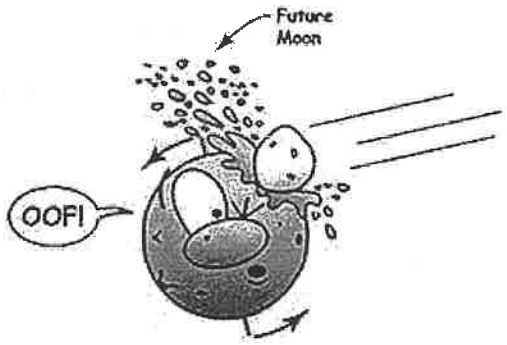
Earth's axis is an imaginary pole going right through the center of Earth from "top" to "bottom." Earth spins around this pole, making one complete turn each day. That is why we have day and night, and why every part of Earth's surface gets some of each.

Earth has seasons because its axis doesn't stand up straight.

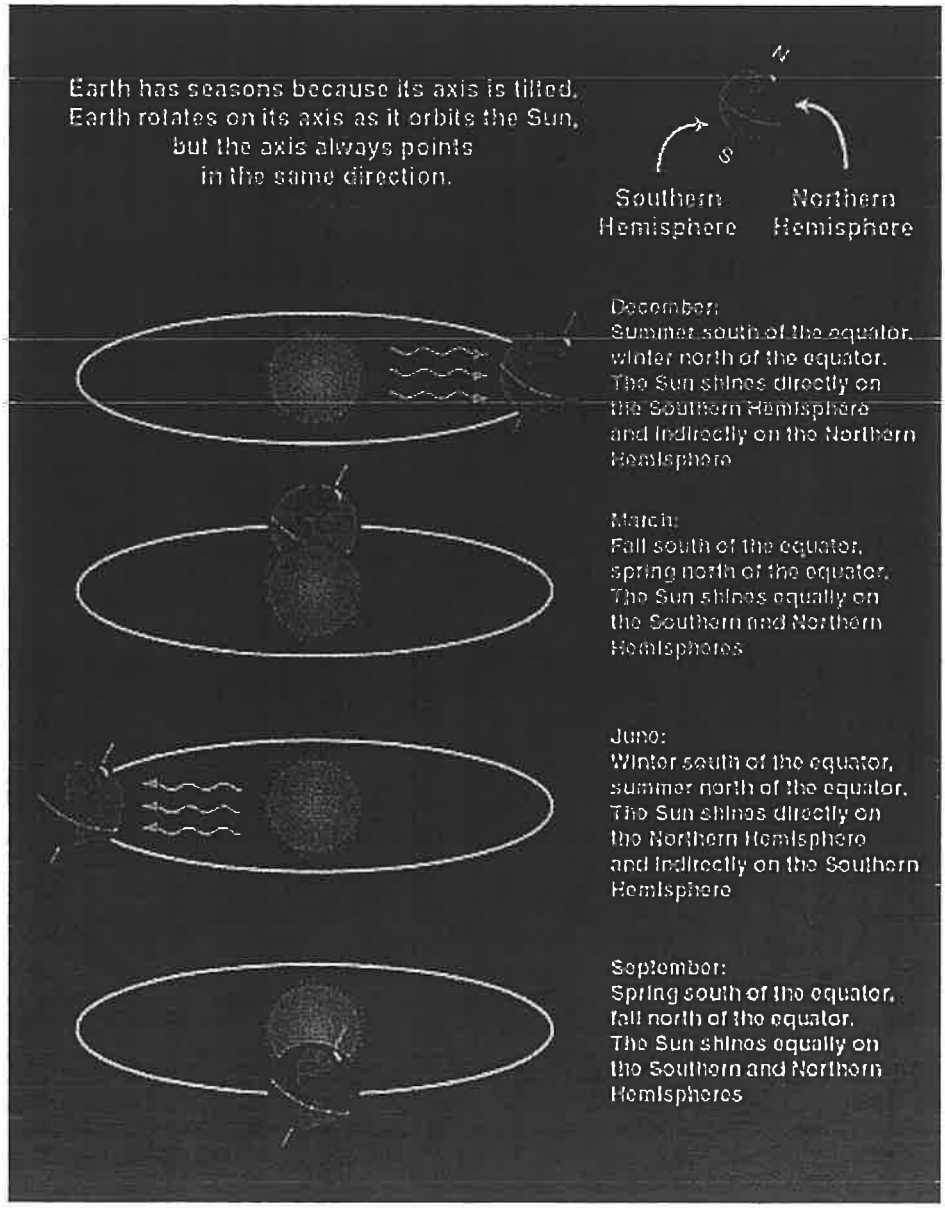
But what caused Earth to tilt?

Long, long ago, when Earth was young, it is thought that something big hit Earth and knocked it off-kilter. So instead of rotating with its axis straight up and down, it leans over a bit.

By the way, that big thing that hit Earth is called Theia. It also blasted a big hole in the surface. That big hit sent a huge amount of dust and rubble into orbit. Most scientists think that that rubble, in time, became our Moon.

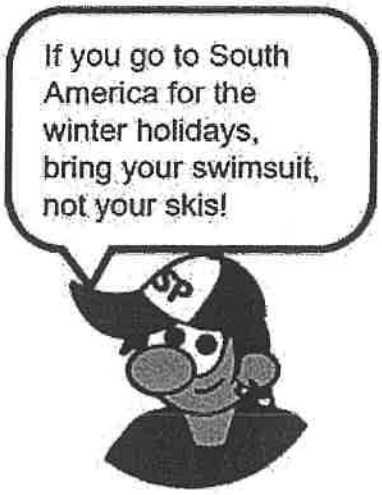


As Earth orbits the sun, its tilted axis always points in the same direction. So, throughout the year, different parts of Earth get the sun's direct rays.



Sometimes it is the North Pole tilting toward the sun (around June) and sometimes it is the South Pole tilting toward the sun (around December).

It is summer in June in the Northern Hemisphere because the sun's rays hit that part of Earth more directly than at any other time of the year. It is winter in December in the Northern Hemisphere, because that is when it is the South Pole's turn to be tilted toward the sun.



Name: _____ Date: _____

1. What is the Earth's axis?

A. an imaginary pole that passes through the center of the Earth

B. the path that the Earth travels around the sun

C. the object that hit young Earth long ago, causing it to lean over

D. the distance between the Earth and the sun

2. This text describes what causes us to have seasons at different times of the year on different parts of the Earth. What is one thing that causes seasons?

A. the shape of the Earth

B. the oval-shaped orbit of the Earth

C. the tilt of the Earth

D. the distance between the Earth and sun

3. The text says, although many people believe that we have summer when the Earth is closest to the hot sun, that we actually have summer when the Earth is farthest away from the sun. What conclusion can be drawn from this evidence?

A. Earth's orbit changes shape almost every year.

B. Scientists do not know for sure why we have seasons.

C. Earth's seasons are caused by the moon rather than the sun.

D. Earth's distance from the sun does not affect the seasons.

4. Based on the text, what causes a hemisphere on Earth to have summer?

A. direct sunshine from the sun hitting that hemisphere

B. indirect sunshine from the sun hitting that hemisphere

C. that hemisphere's closeness to the sun, relative to its closeness at other parts of the year

D. that hemisphere's natural climate and the warmth of the Earth's atmosphere in that area

5. What is the main idea of this text?

A. Earth's oval-shaped orbit causes the seasons.

B. Earth's tilted axis causes the seasons.

C. The shape of the Earth causes the seasons.

D. Earth's distance from the sun causes the seasons.

6. Please read the following sentences from the passage.

"But what caused the Earth to **tilt**? Long, long ago, when Earth was young, it is thought that something big hit Earth and knocked it off-kilter. So instead of rotating with its axis straight up and down, it leans over a bit."

What does the word **tilt** mean as used in these sentences?

A. skip

B. spin

C. move

D. lean

7. Please choose the answer that best completes the sentence below.

When the Northern Hemisphere is tilted towards the sun, the Southern Hermisphere does not receive direct sunshine, ___ it is winter in the south.

A. because

B. if

C. so

D. first

8. Why is the Earth's axis tilted?

9. Why does the Northern Hemisphere have summer in June? Use evidence from the text in your answer.

10. Imagine that the Earth's axis went straight up and down, instead of tilting. Explain whether or not the Earth would still have different seasons. Support your answer with evidence from the text.

Day 25

_____ **Math**: Range and Putting it altogether. If you have the internet, watch the video from Turtle Diary, Finding the Range. Read my notes on Range, then do the practice pages on Range. Review my notes over statistics for lessons 22-24. Then complete the statistics practice pages.

_____ **Reading**: Choose one of the four things on the menu for Day 25 to do based on the movie you watch or the story you read on Day 21. You only have to do ONE of the 4 options for Day 25.

_____ **Science**: Continue to observe the moon and record what you see. Label the Diagram, "Seasons of the Year".

_____ **Social Studies**: Read the passage, "Alexander the Great's Empire". Underline where you find the answers in the passage.

_____ **Explore**: See explore menu

Day 25- Range and Putting it Altogether

Range is also pretty easy as long as you follow the steps. Given the following set of data:

10, 2, 4, 10, 3, 6, 2

First, arrange the numbers in order from least to greatest: 2, 2, 3, 4, 6, 10, 10

Then, find the largest and smallest number in the data set: 10 and 2

Find the difference (subtract): 10 -2 = 8

The Range is 8.

Assignment: Watch the video from Turtle Diary, Finding the Range if you have internet. Complete the practice pages on finding the range and then the other statistic pages. Review my notes from lessons 22-24 if you have any questions.

Name Date

FIND THE RANGE SHEET 1

Find the range in each of the sets of data below by ordering the numbers and then finding the difference between the highest and lowest.

Data		Ordered list	Range
1)	45, 23, 17, 20, 27, 11	11, 17, 20, 23, 27, 45	45-11=34
2)	6, 23, 12, 19, 2, 7		
3)	19, 26, 23, 35, 29, 21		
4)	5, 2, 0, 8, 11, 16, 10		
5)	62, 78, 56, 61, 59, 83		
6)	73, 87, 65, 92, 89, 91		
7)	18, 6, 23, 2, 15, 21, 7		
8)	3, 16, 12, 18, 6, 4, 19, 4		
9)	25, 47, 32, 21, 58, 52, 39		
10)	0.3, 0.9, 0.4, 1.2, 0.5		
11)	2.3, 3.6, 1.4, 1.1, 3.7		
12)	6.2, 1.7, 5.1, 4.6, 1.3, 1.7		
13)	12.8, 5.4, 9, 2, 3.6, 9.7		
14)	26, 15, 74, 61, 19, 8, 53		
15)	0.9, 0.3, 0.4, 1.6, 0.7, 1.5		
16)	76, 23, 15, 92, 11, 37, 101		

Name : _____ Score : _____

Range

Sheet 1

Example: Find the range for the given data.

24, 31, 12, 38, 13, 15, 46, 62

Range = Maximum value – Minimum value

= 62 – 12

= **50**

Find the range for each set of numbers.

1) 36, 17, 22, 43, 11, 56, 17, 71

Range : _____

2) 84, 75, 9, 28, 57, 64, 42

Range : _____

3) 83, 78, 99, 56, 48, 74, 68, 55, 85

Range : _____

4) 17, 66, 14, 79, 47, 95, 32, 21, 10, 58

Range : _____

5) 88, 74, 41, 59, 39, 82, 44

Range : _____

6) 78, 8, 34, 61, 55, 29

Range : _____

7) Eight baskets of apples weigh (in pounds) 70, 68, 73, 78, 73, 68, 75, and 76. Find the range.

Range : _____

8) The number of people who visited a winter carnival during the first 7 hours of a day are the following.

79, 83, 50, 69, 92, 77, 88

What is the range of the given data?

NAME _____

Lesson 7.6 Finding Measures of Center

The **mean** is the average of a set of numbers. To find the mean, add all the numbers and divide by the number of values in the set.

The **median** is the middle number of a data set. If there are two middle numbers, the median is the average of the two.

The **mode** is the number that appears most often in a data set.

Example: 12, 15, 18, 23, 8, 10, and 12
Mean: $12 + 15 + 18 + 23 + 8 + 10 + 12 = 98$ $\frac{98}{7} = 14$

To find the median, arrange the numbers in order. 8, 10, 12, 12, 15, 18, 23
Median: 12 Mode: 12

The **range** is the difference between the least and greatest valu

Find the mean, median, and mode of each data set. Show your work.

	a	b
1.	32, 35, 25, 43, 43	8, 12, 23, 12, 15
	mean _____	mean _____
	median _____	median _____
	mode _____	mode _____
	range _____	range _____
2.	10, 18, 12, 14, 12, 12	17, 15, 15, 28, 20, 26
	mean _____	mean _____
	median _____	median _____
	mode _____	mode _____
	range _____	range _____
3.	52, 61, 79, 78, 56, 79, 71	37, 50, 67, 83, 34, 49, 37
	mean _____	mean _____
	median _____	median _____
	mode _____	mode _____
	range _____	range _____

Name : _____ Score : _____

Teacher : _____ Date : _____

Mean, Mode, Median, and Range

1) 2, 9, 5, 8, 6, 9, 9, 8

Mean ____ Median ____ Mode _____ Range ____

2) 2, 2, 9, 9, 9, 2, 2

Mean ____ Median ____ Mode _____ Range ____

3) 8, 2, 8, 6, 2, 4, 2, 2, 2

Mean ____ Median ____ Mode _____ Range ____

4) 2, 3, 2, 7, 2, 2

Mean ____ Median ____ Mode _____ Range ____

5) 1, 8, 6, 7, 4, 3, 2, 1, 7, 1

Mean ____ Median ____ Mode _____ Range ____

6) 1, 4, 6, 6, 6, 1

Mean ____ Median ____ Mode _____ Range ____

7) 7, 6, 9, 3, 9, 9, 9, 5, 6

Mean ____ Median ____ Mode _____ Range ____

8) 2, 8, 2, 7, 6, 3, 6, 6

Mean ____ Median ____ Mode _____ Range ____

9) 4, 3, 4, 5, 3, 7, 9

Mean ____ Median ____ Mode _____ Range ____

10) 8, 7, 7, 8, 5

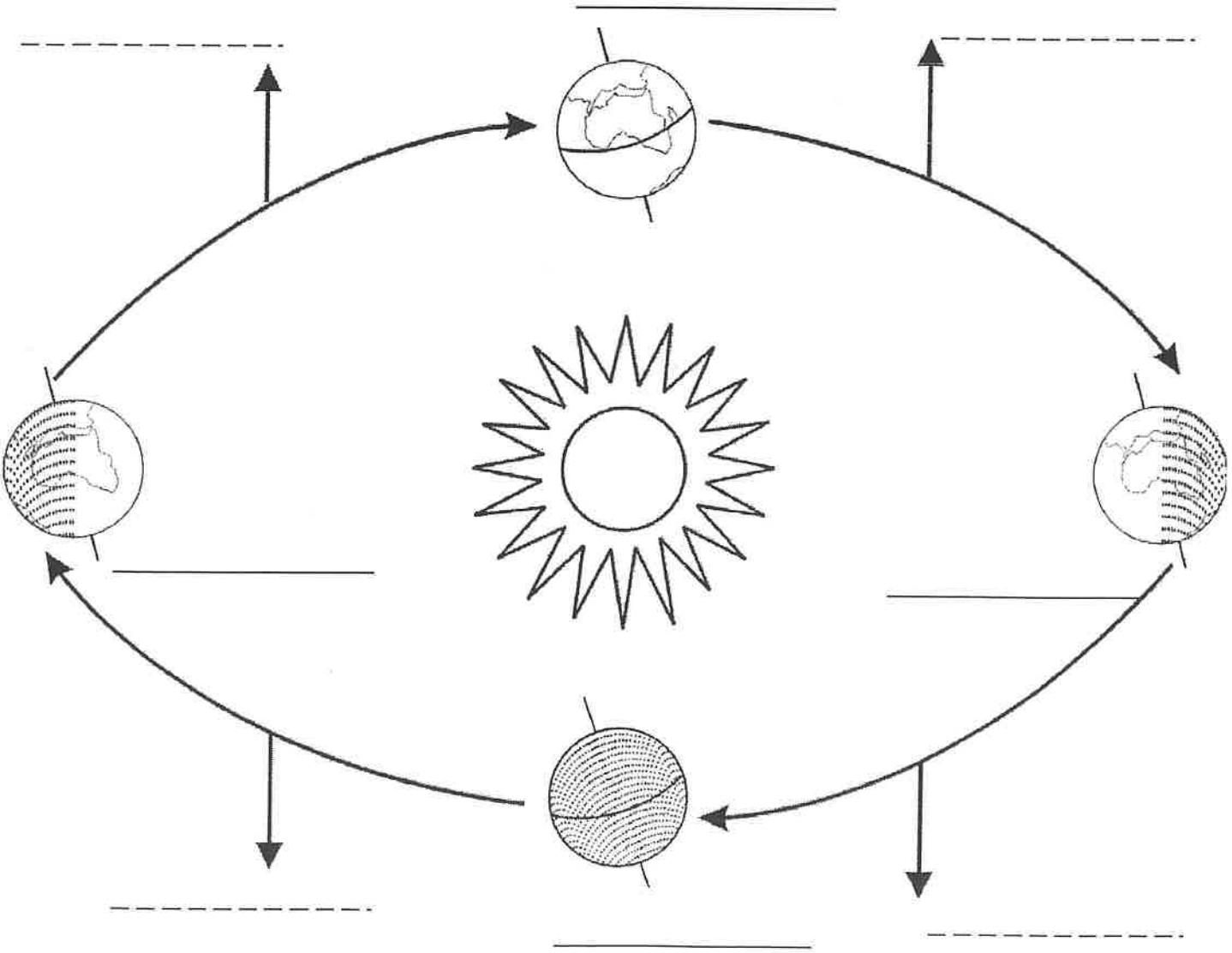
Mean ____ Median ____ Mode _____ Range ____

Name _____ Date ____ / ____ / ____

SEASONS OF THE YEAR

The Earth's position during its orbit on four different dates is shown below. On the solid lines provide the dates of the two equinoxes and the two solstices. On the dashed lines provide the name of the season people in the Northern Hemisphere experience during that portion of the year. Use the following dates and seasons:

Fall	March 21
Spring	June 21
Summer	September 22
Winter	December 22



Alexander the Great's Empire

by ReadWorks

Alexander III was born in Macedonia in 356 BCE. He is also known as Alexander the Great. When he was born, his father was the king of Macedonia. Throughout Alexander's childhood, he was taught by a few teachers. When he was a teenager, he was even taught by the ancient Greek philosopher Aristotle. Alexander learned philosophy, medicine, and science from him. In 336 BCE, Alexander became the king of Macedonia at the age of 20 years old.

image of Alexander the Great

Ancient Greece was ruled by Macedonia when Alexander became king. Even still, he desired to expand his empire and conquer the Persian Empire, one of the largest empires at the time. Alexander led his army to great victories in Asia Minor, Syria, and Egypt. These were all part of the Persian Empire.

In 323 BCE, Alexander the Great died in Babylon. Some people say he died of a fever, and others say he was poisoned. Although historians don't agree on how he died, many historians agree that Alexander was a fearless military genius. He inspired great loyalty in his subjects, and he and his army never lost a battle. At the time of his death, Alexander had been planning on conquering even more lands. After Alexander died, many people in the empire fought for control. All the fighting helped to cause the end of the empire Alexander had worked really hard to build.

Name: _____ Date: _____

1. What was Alexander III also known as?

A. Alexander the King

B. Alexander the Genius

C. Alexander the Great

D. Alexander the Conquerer

2. What does the text describe?

A. the life of philosopher Aristotle and his teachings

B. the life of Alexander the Great and his empire

C. the life of Alexander III's father and his empire

D. the life of the Persian king and his empire

3. Read these sentences from the text.

> [Alexander] inspired great loyalty in his subjects, and he and his army never lost a battle. At the time of his death, Alexander had been planning on conquering even more lands.

Based on the text, what can you conclude about Alexander the Great's desire at the time of his death?

A. Alexander the Great wanted his empire to stay the same size.

B. Alexander the Great wanted his empire to grow larger.

C. Alexander the Great wanted his empire to become smaller.

D. Alexander the Great wanted his empire to finally end.

4. Read these senteces from the text.

> [Alexander] desired to expand his empire and conquer the Persian Empire, one of the largest empires at the time. Alexander led his army to great victories in Asia Minor, Syria, and Egypt.
>
> . . . He inspired great loyalty in his subjects, and he and his army never lost a battle. At the time of his death, Alexander had been planning on conquering even more lands.

Based on the text, what can you infer about the way Alexander the Great led his army in battles?

A. Alexander the Great led his army by joining them in battles.

B. Alexander the Great led his army by staying far from battles.

C. Alexander the Great led his army by moving past the battles.

D. Alexander the Great led his army by winning battles without them.

5. What is the main idea of the text?

A. Alexander the Great grew his empire by winning all battles and conquering parts of the Persian Empire, but his empire ended after he died.

B. Alexander the Great learned philosophy, medicine, and science when he was a teenager from the ancient Greek philosopher Aristotle.

C. Alexander the Great's death remains a mystery, with some historians saying he died of a fever and others saying he was poisoned.

D. After Alexander the Great died, his empire he worked hard to build ended because many people in the empire fought for control.