FLIPPIN HIGH SCHOOL

AMI Packets #21 - #45

Dear 9th Grade, 10th Grade and 11th Grade Students – I became very sad when the Governor of Arkansas stated that students would not be returning to school this year. You see, the first two weeks we were out, I was OK. However, as the weeks continued, I have really began to miss each and every one of you. I want you to know that I look forward to the day that we can all get together again at school.

This envelope contains all of the instructional work that you need to complete for the next five weeks. The packets are broken down into five different weeks. It is very important that you complete all of your work.

We are working on a process that should allow you to turn in your previous AMI packets very soon. We are having boxes made that will allow you to deposit your materials into the boxes and then we will let them set for a couple of days to allow any potential viruses to die. We will then remove your AMI packets and begin to look at them.

Please call me at 251-367-7878 if you have any questions. Again, I sure do miss all of you.

Coach Horn

AMI PACKETS

#21 - #25

FOR THE WEEK OF

APRIL 20TH – 24TH

English AMI Days 21-45

A note to our students:

We understand that this is a difficult time and we want you to have an assignment that is not only fun, but at the same time, educational. We want you to use the skills you have already learned and apply them to these assignments. The first two weeks deal with literary works of your choice. Please know that we are here to help you. If you are having a difficult time finding a literary work to your liking, please let us know and we will be more than willing to help you find something that is suited specifically for you.

We love you and miss you! Please let us know if you need anything at all. You can also just reach out to us to say hi!

We LOVE you all!

Mrs. Randall & Mrs. Maze

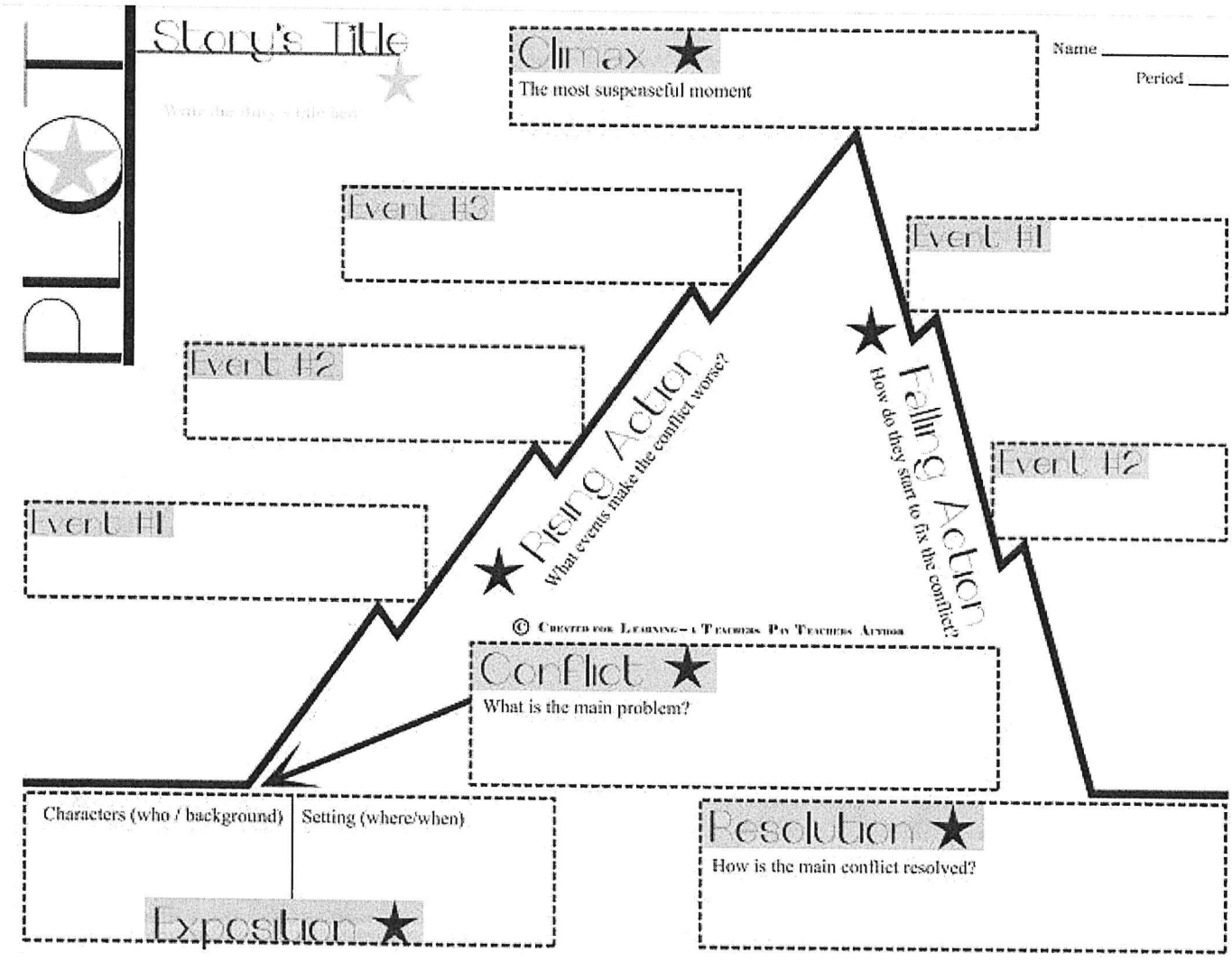
English AMI Days 21-25

For this assignment, find a good short story or book you have just finished reading, or even one that you have read in the past. The idea is to pick a story you have enjoyed because this assignment will contain multiple parts based upon your literary choice. Complete the following activities for days 22-25. If you can't think of a book or story from class, send an email to Mrs. Randall or Mrs. Maze, and we will help you brainstorm ideas for your reading choice.

Day #21

Read your short story, finish your good book or take some time to reflect on the book you are using for this assignment. Take some notes as you are completing this activity. Who are the main characters, what is the plot of this story, and why is the setting important?

Day #22



Title

Focusing on the CHARACTERS

Name:

Character Type:

Physical Description:

How other characters see them:

Personality:

Key Quotations:

How are they important to the plot?

Name:

Character Type:

Physical Description:

Personality:

How other characters see them:

How are they important to the plot?

Key Quotations:

Name:

Physical Description:

Character Type:

Personality:

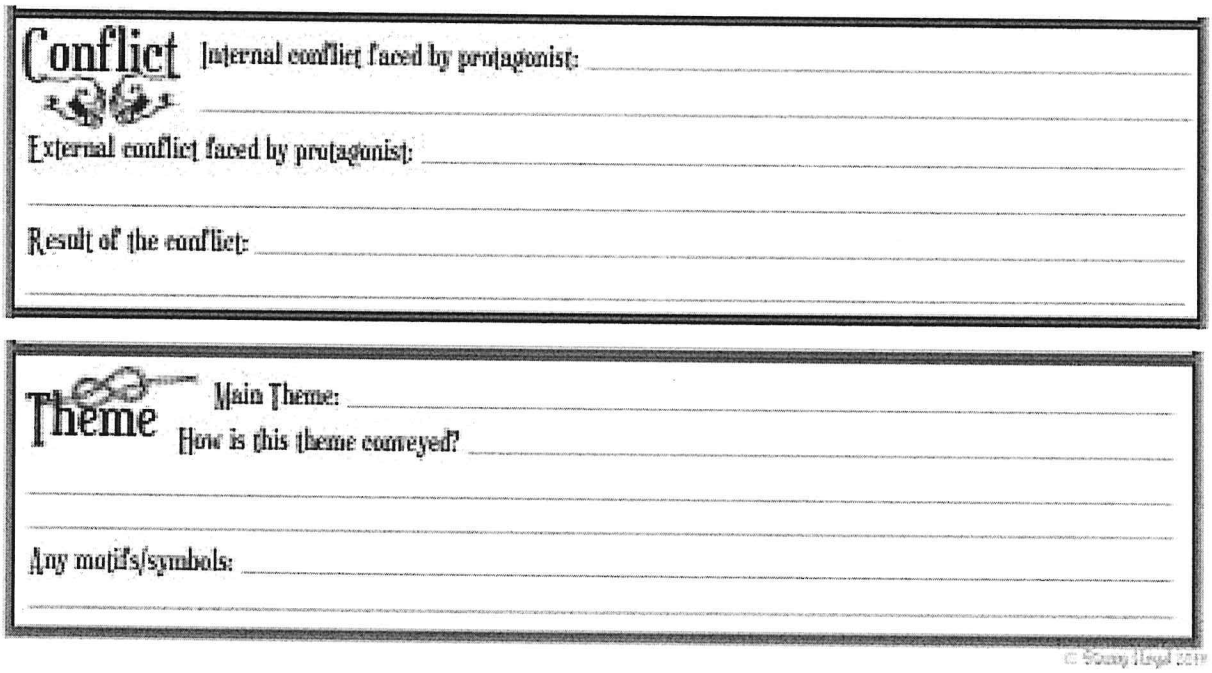
How other characters see them:

How are they important to the plot?

Key Quotations:

~~Day #23~~

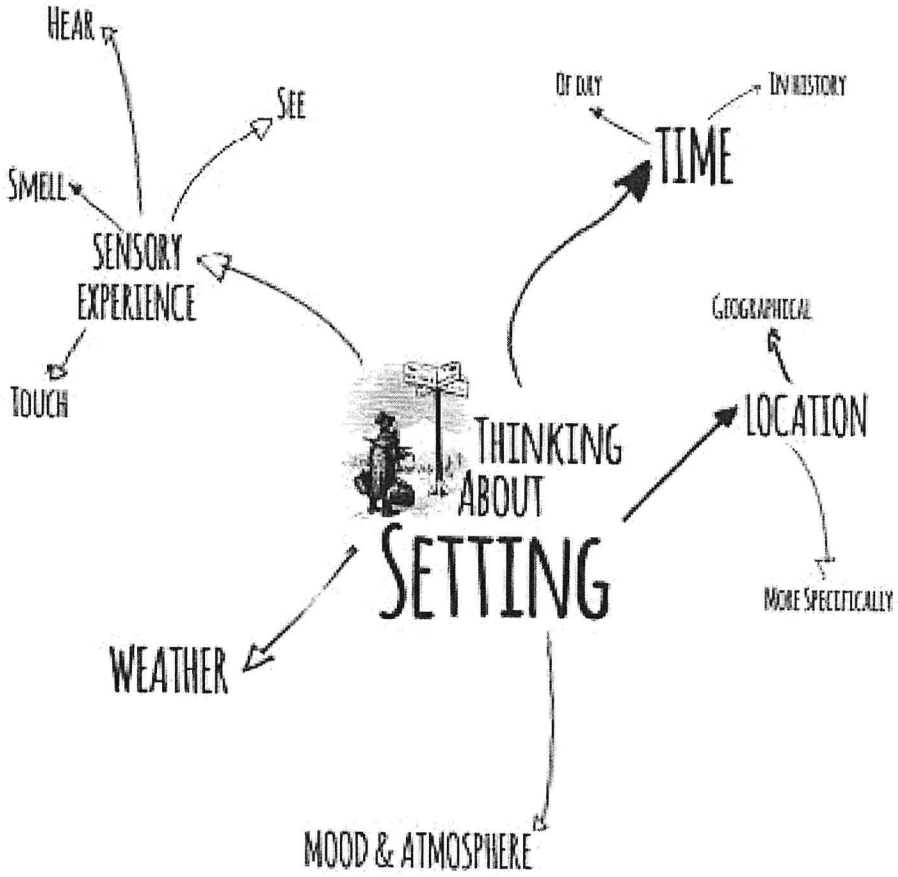
Day #24


Conflict
Internal conflict faced by protagonist:
External conflict faced by protagonist:
Result of the conflict:
Theme
Main Theme:
How is this theme conveyed?
Any motifs/symbols:

Day #25

Write examples of each item on the graphic organizer below. For example, if a character describes the smell of a basement as "damp and moldy" you could write those descriptive words near SMELL on the graphic organizer below. If something doesn't apply, then you can leave it blank.

TITLE: _____ GENRE: _____



COMMENT ON WHY THE SETTING IS IMPORTANT: _____

_____

_____

_____

_____

AMI Packet for Social Studies

Mr. Lynch and Mrs. Risley

Days 21-45

If you have any questions about your work please email either teacher listed below.

Teacher	Courses	Email
Josh Lynch	World History, American History	joshlynch@flippinschools.net
Britney Risley	Civics, Economics, World Geography, African American History, Sociology, Psychology, AP US History	britneyrisley@flippinschools.net

Students: We will be collecting AMI work when our administration team deems it safe to do so. Please be checking your email and school social media pages for updates.

Parents: AMI work will be used to count students present for days out of school since March 16.

AMI Assignments will also be posted on the 'Curriculum' page of www.flippinschools.com

The bibliography on the back of this cover sheet for Social Studies AMI Days 21-45 will also be posted online with the AMI packet.

Bibliography for Flippin High School Social Studies AMI Days 21-45

Day 21-
https://www.teacherspayteachers.com/Product/Elections-Propaganda-in-Politics-Freebie-1439350
Day 22-
https://www.teacherspayteachers.com/Product/Elections-Propaganda-in-Politics-Freebie-1439350
Day 23- https://www.history.com/this-day-in-history/the-first-earth-day
Day 24- https://www.history.com/this-day-in-history/elvis-presley-first-appearance-the-ed-sullivan-show
Day 25-
https://www.history.com/this-day-in-history/reagan-challenges-gorbachev-to-tear-down-the-berlin-wall
Day 26- https://history.nasa.gov/sputnik/
Day 27- https://www.history.com/this-day-in-history/jesse-owens-wins-long-jump-and-respect-in-germany
Day 28- https://online.seterra.com/pdf/us-states-map-quiz.pdf
Day 29-
https://online.seterra.com/pdf/north-america-countries-quiz.pdfhttps://www.investopedia.com/ask/answers/033015/what-difference-between-command-economy-and-mixed-economy.asp
Day 30- https://www.history.com/this-day-in-history/martin-luther-king-jr-born,
https://www.history.com/topics/black-history/malcolm-x
Day 31- https://www.history.com/this-day-in-history/willie-mays-breaks-national-league-home-run-record
Day 32- https://encyclopediaofarkansas.net/entries/japanese-american-relocation-camps-2273/
Day 33- https://www.history.com/topics/china/tiananmen-square
Day 34- https://www.history.com/news/who-was-the-tank-man-of-tiananmen-square
Day 35- https://www.education.com/worksheet/article/amelia-earhart-biography/
Day 36- https://www.history.com/this-day-in-history/transcontinental-railroad-completed
Day 37-
https://www.teacherspayteachers.com/Product/Label-the-Continents-and-Oceans-Social-Studies-SOL-35-2352612
Day 38- https://online.seterra.com/pdf/north-america-countries-quiz.pdf
Day 39- https://www.nationalww2museum.org/war/articles/75th-anniversary-battle-iwo-jima
Day 40-
http://enroll.nationalww2museum.org/learn/education/for-teachers/lesson-plans/pdfs/by-the-numbers.pdf
Day 41-
http://enroll.nationalww2museum.org/learn/education/for-teachers/lesson-plans/pdfs/by-the-numbers.pdf
Day 42- https://www.history.com/this-day-in-history/lawrence-of-arabia-dies
Day 43-
http://enroll.nationalww2museum.org/learn/education/for-teachers/lesson-plans/pdfs/by-the-numbers.pdf
Day 44- https://www.history.com/news/us-election-1920-warren-harding-return-to-normalcy
Day 45- https://www.history.com/news/us-election-1920-warren-harding-return-to-normalcy

Day 21:

A Review of Types of Propaganda

Assertions – statements presented as fact, but with no explanation or evidence presented to back-up the statement

Bandwagon – everyone is doing it/buying it/voting for it

Glittering Generalities – a phrase or concept that sounds great (freedom, honor, glory) but there is no real explanation as to what the candidate or product means by it

Lesser of Two Evils – compared to the alternative, this is best

Name Calling – the use of derogatory words or language with a negative connotation when referring to an opponent or competitor

Pinpointing the Enemy – simplifying a complex situation by identifying a single group or person as the enemy

Plain Folks – inserting language, jokes, and purposeful speech imperfections to convince the audience that the speaker is just like them

Simplification/Stereotyping - reduces a complex situation to a clear-cut choice between good and evil or right and wrong

Testimonials – connecting a famous or respected person to a candidate or product

Transfer – linking feelings (positive or negative) of one object to another

*****NOTE: The following directions say to watch at least 10 commercials, but please change that number to FIVE (5) to fit the spaces provided below.*

Propaganda in Commercials

Usually, I'd ask you to turn off the television while you are completing your homework, but for this assignment, I want you to watch TV. Yes, you read that right! For this assignment, you'll need to skip the channel surfing and snack breaks you usually take when your show goes to a commercial break and pay attention to the commercial spots! You need to watch at least 10 commercials to complete the chart and the follow-up questions

What is the commercial for?	Identify the channel the commercial was on and the time of commercial.	List the type/s of propaganda used and explain how the propaganda was used in the advertisement.

Day 22:

Propaganda in Commercials Follow-up Questions

1. What is the purpose of a commercial?

2. What were the most common forms of propaganda used in the commercials you viewed?

3. What was your favorite commercial? Why?

4. Commercials are a very obvious form of advertisement. What other forms of advertisements are there? Do they use propaganda?

5. What forms of propaganda do you think commercials for political candidates would most likely use? Why?

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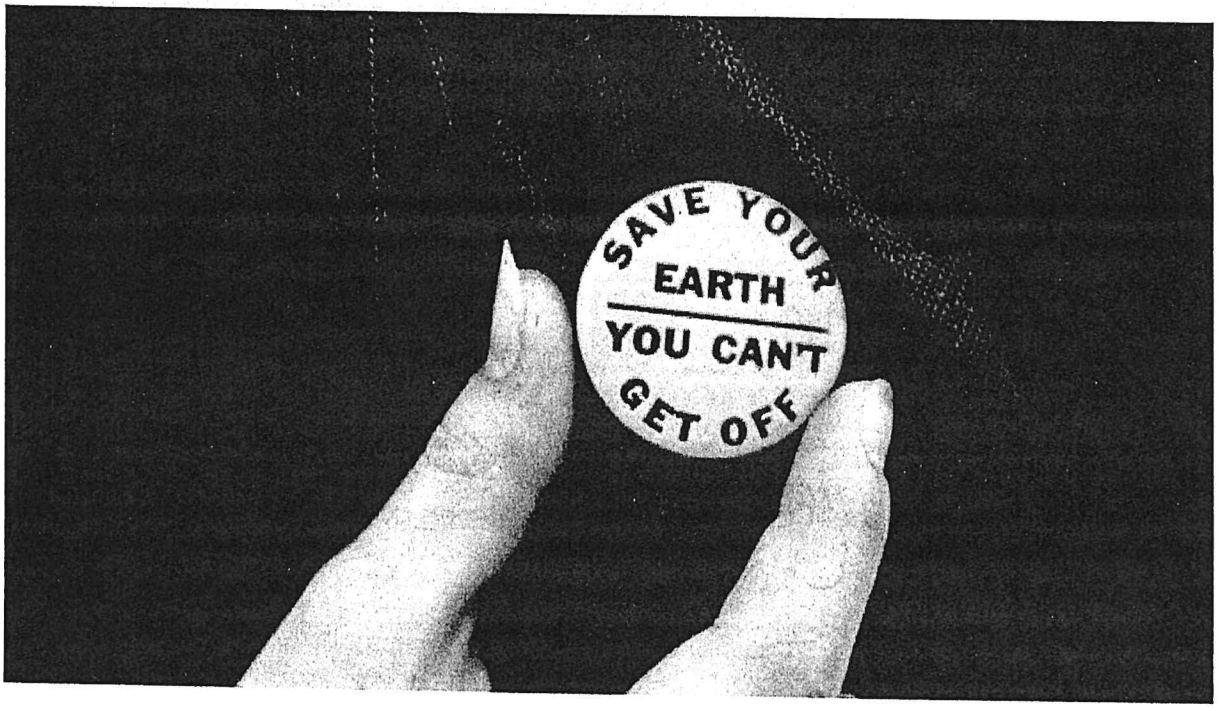
Day 23:

THIS DAY IN **HISTORY**

APRIL 22



1970

Lambert / Getty Images

Earth Day, an event to increase public awareness of the world's environmental problems, is celebrated in the United States for the first time on April 22, 1970. Millions of Americans, including students from thousands of colleges and universities, participated in rallies, marches and educational programs across the country.

Earth Day was the brainchild of Senator Gaylord Nelson of Wisconsin, a staunch environmentalist who hoped to provide unity to the grassroots environmental movement and increase ecological awareness. "The objective was to get a nationwide demonstration of concern for the environment so large that it would shake the political establishment out of its lethargy," Senator Nelson said, "and, finally, force this issue permanently onto the national political agenda."

The 1962 publication of Rachel Carson's book *Silent Spring*—about the effects of pesticides—is often cited as the beginning of the modern environmental movement in the U.S. Sustainability, organic eating and the "back-to-the-land" movement continued to gain steam throughout the 1960s.

The first Earth Day indeed increased environmental awareness in America, and in July of 1970 the Environmental Protection Agency was established by special executive order to regulate and enforce national pollution legislation. Earth Day also led to the passage of the Clean Water and Endangered Species Acts.

On April 22, 1990, the 20th anniversary of Earth Day, more than 200 million people in 141 countries participated in Earth Day celebrations. Senator Nelson was awarded the Presidential Medal of Freedom by President Clinton. (He died in 2005.)

Earth Day has been celebrated on different days by different groups internationally. The United Nations officially celebrates it on the vernal equinox, which usually occurs about March 21. Earth Day 2020—the 50th anniversary—will be celebrated on April 22 in the U.S.

1. Earthday was a brainchild of who?

2. The 1962 publication of Rachel Carson's book *Silent Spring* is cited as the beginning of what?

3. The creation of what federal agency is due to the influence of Earth Day? Which federal acts owe their creation to the Earth Day movement?

4. Do you think it is important to still celebrate Earth Day? Why or why not?

Day 24:

THE MORE YOU LOOK, THE MORE YOU SEE PHOTO ANALYSIS

What I See (observe) Describe exactly what you see in the photo. *What people and objects are shown? How are they arranged? What is the physical setting? What other details can you see?*

What I Infer (deduction) Summarize what you already know about the situation and time period shown and people and objects that appear. *I see ___ and I think ___*

Interpretation Write what you conclude from what you see. *What is going on in the picture? Who are the people and what are they doing? What might be the function of the objects? What can we conclude about the time period?*

Why do you believe the photo was taken?

Why do you believe this photo was saved?

What I Need to Investigate What are three questions you have about the photo?

1.
2.
3.

Elvis Presley

The King of Rock and Roll teams up with TV's reigning variety program, as Elvis Presley appears on "The Ed Sullivan Show" for the first time on September 9, 1956.

After earning big ratings for "The Steve Allen Show," the Dorsey Brothers "Stage Show" and "The Milton Berle Show," Sullivan finally reneged on his Presley ban, signing the controversial singing star to an unprecedented $50,000 contract for three appearances. With 60 million viewers—or 82.6 percent of TV viewers at the time—tuning in, the appearance garnered the show's best ratings in two years and became the most-watched TV broadcast of the 1950s.

Although "The Ed Sullivan Show" was filmed in New York, Presley performed remotely from CBS's Los Angeles studio (he was filming his first movie, "Love Me Tender," in California). At the time, his first album, "Elvis Presley" had already debuted and "Heartbreak Hotel" was a hit single, but he wasn't quite yet "The King."

On the variety show, Presley, then 21, was introduced by British actor Charles Laughton, who was filling in for Sullivan that night, as the legendary host was at home recovering from a serious car accident. Presley performed "Don't Be Cruel," Little Richard's "Ready Teddy" and "Hound Dog" and viewers got a full head-to-toe look at the singer despite fears of "vulgar" hip-shaking gyrations. He also sang "Love Me Tender" and, according to *Variety*, "For the first time in the history of the record business, a single record has achieved one million sales before being released to the public."

Presley, clad in a plaid jacket, told the audience performing on the show was "probably the greatest honor I have ever had in my life," before kicking things off with "Don't Be Cruel." He said, "Thank you, ladies," to the screaming fans and then introduced "Love Me Tender" as "completely different from anything we've ever done."

During his second segment, Presley sang "Ready Teddy" and "Hound Dog." Laughton's closing remarks that night? "Well, what did someone say? Music hath charms to soothe the savage beast?"

"When it was over, parents and critics, as usual, did a lot of futile grumbling at the vulgarity of this strange phenomenon that must somehow be reckoned with," a reviewer for *Time* magazine wrote at the time. Other guests that night included singers Dorothy Sarnoff and Amru Sani, a comedy act from novelty quartet The Vagabonds, a tap dancing duo and an acrobat act.

During his second performance on October 28, 1956, Presley once again performed "Don't Be Cruel" and "Hound Dog" along with "Love Me Tender." And during his third and final performance on "The Ed Sullivan Show" on January 6, 1957, he sang seven songs, including the gospel song "Peace in the Valley," over three segments, but the episode is most famously remembered for TV censors refusing to show Elvis below the waist.

At the end of his performance, however, Sullivan called Presley "a real decent, fine boy. … We've never had a pleasanter experience on our show with a big name than we've had with you."

Day 25:

THE MORE YOU LOOK, THE MORE YOU SEE PHOTO ANALYSIS

What I See (observe) Describe exactly what you see in the photo. *What people and objects are shown? How are they arranged? What is the physical setting? What other details can you see?*

What I Infer (deduction) Summarize what you already know about the situation and time period shown and people and objects that appear. *I see* ___ *and I think* ___

Interpretation Write what you conclude from what you see. *What is going on in the picture? Who are the people and what are they doing? What might be the function of the objects? What can we conclude about the time period?*

Why do you believe the photo was taken?

Why do you believe this photo was saved?

What I Need to Investigate What are three questions you have about the photo?

1.
2.
3.

1987

June 12

President Reagan challenges Gorbachev to "Tear down this wall"

On this day in 1987, in one of his most famous Cold War speeches, President Ronald Reagan challenges Soviet Leader Mikhail Gorbachev to "tear down" the Berlin Wall, a symbol of the repressive Communist era in a divided Germany.

In 1945, following Germany's defeat in World War II, the nation's capital, Berlin, was divided into four sections, with the Americans, British and French controlling the western region and the Soviets gaining power in the eastern region. In May 1949, the three western sections came together as the Federal Republic of Germany (West Germany), with the German Democratic Republic (East Germany) being established in October of that same year. In 1952, the border between the two countries was closed and by the following year East Germans were prosecuted if they left their country without permission. In August 1961, the Berlin Wall was erected by the East German government to prevent its citizens from escaping to the West. Between 1949 and the wall's inception, it's estimated that over 2.5 million East Germans fled to the West in search of a less repressive life.

With the wall as a backdrop, President Reagan declared to a West Berlin crowd in 1987, "There is one sign the Soviets can make that would be unmistakable, that would advance dramatically the cause of freedom and peace." He then called upon his Soviet counterpart: "Secretary General Gorbachev, if you seek peace–if you seek prosperity for the Soviet Union and Eastern Europe–if you seek liberalization: come here, to this gate. Mr. Gorbachev, open this gate. Mr. Gorbachev, tear down this wall." Reagan then went on to ask Gorbachev to undertake serious arms reduction talks with the United States.

Most listeners at the time viewed Reagan's speech as a dramatic appeal to Gorbachev to renew negotiations on nuclear arms reductions. It was also a reminder that despite the Soviet leader's public statements about a new relationship with the West, the U.S. wanted to see action taken to lessen Cold War tensions. Happily for Berliners, though, the speech also foreshadowed events to come: Two years later, on November 9, 1989, joyful East and West Germans did break down the infamous barrier between East and West Berlin. Germany was officially reunited on October 3, 1990.

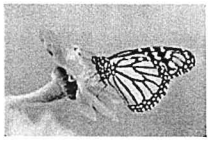
Gorbachev, who had been in office since 1985, stepped down from his post as Soviet leader in 1991. Reagan, who served two terms as president, from 1981 to 1989, died on June 5, 2004, at age 93.

From history.com, *President Reagan Challenges Gorbachev to 'Tear down this wall'*

Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 21

Genetic Basis of Butterflies



by ReadWorks

If you've ever been in a park during the summer, you may have seen butterflies flitting from flower to flower. They are quite beautiful, and like humans, seem to have individual traits. There are orange butterflies with big brown eyes, blue butterflies with black markings on their wings, and white butterflies with small black antennae. According to some butterfly experts, there are approximately 20,000 kinds of butterflies in the world. Each species (or type) of butterfly has its own genetic information that dictates what characteristics it will have and distinguishes it from other butterflies.

Inherited genetic information explains why certain species look different from others. Monarch butterflies, orange butterflies with black markings and white spots on their wings, are most common in Mexico and the United States. Their bright color makes them easily noticeable to predators, but also acts as a warning that they are poisonous if eaten.

The poison of monarch butterflies can be traced back to a plant they feed on during an earlier stage in their lives. What we think of as butterflies are the adult versions of caterpillars. As caterpillars, monarchs feed on milkweed, which contains a toxin that is poisonous to most vertebrates but not to monarch caterpillars. When the caterpillars become adult monarch butterflies, the milkweed in their bodies is poisonous to any predators that might try to eat them.

An unsuspecting predator that did not know the monarch butterfly was poisonous would soon realize its mistake. After tasting the poisonous bug, most predators quickly spit out the monarch and learn not to eat them again. Unlike other butterflies, whose genetic information (and therefore their coloration) helps them blend into their habitats in order to defend themselves from predators, monarch butterflies rely on their bright coloration to keep them safe. An interesting fact: another species of butterfly, the viceroy, mimics the coloration of the monarch in order to keep predators from eating it!

Even though there are many kinds of butterflies that look very different, all butterflies share a certain number of traits, which are also determined by their genetic information. They all have the same life cycle. First a caterpillar hatches from an egg. The caterpillar eats plants and grows bigger. Then it covers itself in a hard case called a chrysalis, and it enters a stage of transformation. During this stage, the insect is called a pupa. Inside the chrysalis, the pupa grows the legs, wings, and other parts of an adult butterfly. Once the butterfly is fully developed, the chrysalis splits apart, and the butterfly emerges. All butterflies have four wings-two upper, two lower-that are covered in tiny colored scales. A butterfly's genes determine the color of its scales, and more-they dictate the insect's size and shape as well.

Colorful decorations are key to the survival of the monarch butterfly. Vivid colors signal danger to the predators which might otherwise eat the butterfly. Other species of butterfly, with different genes, rely on different survival strategies, and have their own distinctive designs. But no matter the pattern, the blueprints for each of the 20,000 different species' development are written in their genetic codes.

Genetic Basis of Butterflies - Comprehension Questions

_____1. What does genetic information dictate, or control?

A. what characteristics an organism will have
B. where an organism will live and die
C. which predators will eat the organism
D. who the organism's parents were

_____2. The passage describes the sequence of a butterfly's life. Which of the following shows the life cycle of a butterfly in the correct order?

A. egg, pupa, adult, caterpillar
B. pupa, egg, caterpillar, adult
C. egg, caterpillar, pupa, adult
D. egg, pupa, caterpillar, adult

_____3. Monarch butterflies are protected by their bright coloration. What evidence from the passage supports this conclusion?

A. Their bright coloration makes monarch butterflies easily noticeable to predators.
B. The monarch's color warns predators that they are poisonous, so they don't get eaten.
C. Unlike other butterflies, monarchs do not blend into their surroundings to protect themselves.
D. If a predator eats a monarch, it can taste the poison and will spit the butterfly out.

_____4. Butterfly A is blue with black markings. Butterfly B is green with brown spots. What conclusion can you make about these two butterflies?

A. Both butterflies protect themselves by blending into their surroundings.
B. The two butterflies have different life cycles.
C. Both butterflies have the same genetic information.
D. The two butterflies have different genetic information.

_____5. What is this passage mostly about?

A. monarch butterflies
B. viceroy butterflies
C. milkweed toxins
D. caterpillars and pupae

_____6. Read the following sentences: "Inside the chrysalis, the pupa grows the legs, wings, and other parts of an adult butterfly. Once the butterfly is fully developed, the chrysalis splits apart, and the butterfly emerges. What does the word "developed" mean?

A. young and small
B. changed and grown
C. safe and protected
D. soft and vulnerable

_____7. Choose the answer that best completes the sentence. Monarch butterflies are brightly colored; _____, they are highly visible to predators.

A. however
B. for example
C. as a result
D. initially

8. Why are monarch butterflies poisonous?_____

_____

_____

9. How do predators know that monarch butterflies are poisonous?_____

_____

_____

10.How does the monarch's coloration help both the butterfly and predators?_____

_____

_____

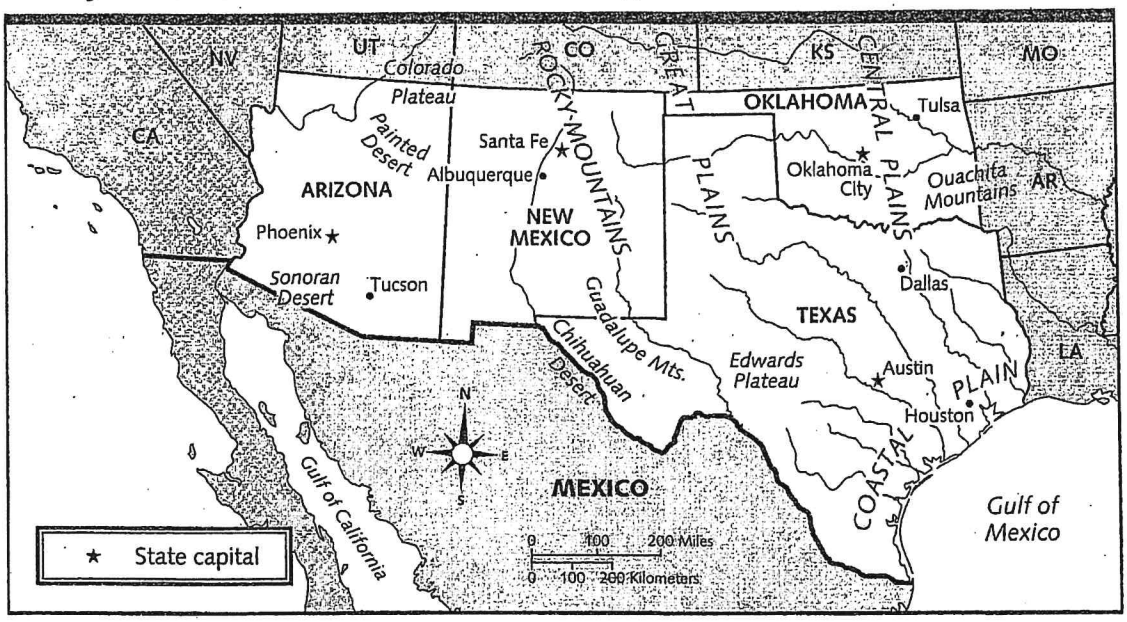
Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 22

Reading a Landform Map

Maps can give many kinds of information about a place. A **population map** shows how many people live in an area. A **precipitation map** shows how much rain or rain and snow an area gets each year. A **resource map** tells what kind of natural resources are found in an area. The map below is a **landform map**. It gives information about landforms and natural regions in the southwest part of the United States.

Major Landforms and Natural Regions of the Southwest



1. Which state in this region is farthest south?
   - Ⓐ Arizona
   - Ⓑ New Mexico
   - Ⓒ Oklahoma
   - Ⓓ Texas

2. What mountain range can be found in southeast Oklahoma?
   - Ⓐ Rocky Mountains
   - Ⓑ Ouachita Mountains
   - Ⓒ Appalachian Mountains
   - Ⓓ Guadalupe Mountains

3. In which natural region is Houston located?
   - Ⓐ Colorado Plateau
   - Ⓑ Great Plains
   - Ⓒ Coastal Plain
   - Ⓓ Chihuahuan Desert

4. Which desert can be found in Arizona?
   - Ⓐ Sahara Desert
   - Ⓑ Chihuahuan Desert
   - Ⓒ Gobi Desert
   - Ⓓ Painted Desert

Write complete sentences to answer the question.

5. Which state in this region probably has the most agricultural activity? Explain.

_____

_____

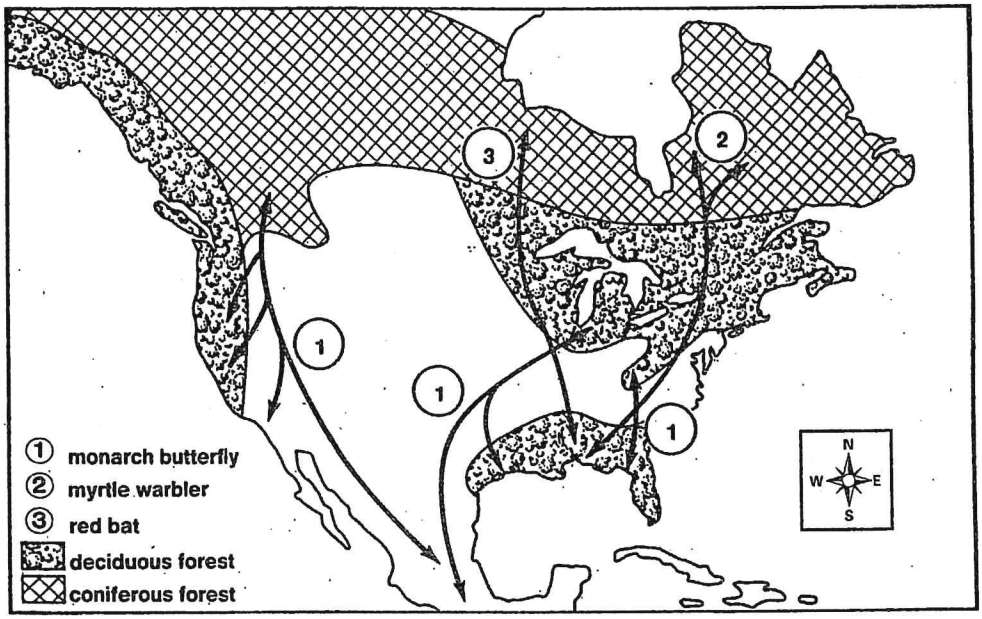
Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 22

Animal Migration

Many animals migrate long distances between their summer and winter homes. Migrating animals usually spend winters in the South and summers in the North. Some, especially birds, return to exactly the same spot year after year. Study the map below about migrating animals.

Migration Paths of Three Animals



Use the map to answer the questions. Write complete sentences.

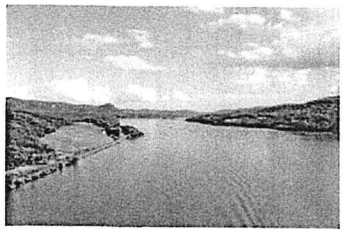
1. Between what two biomes does the red bat migrate? _____

2. Which animal has more than one migratory route? _____

3. Which two animals migrate between the same two biomes? _____

4. In what type of biome does the myrtle warbler spend the winter? _____

5. Why do you think some animals migrate?



Name _____ Date _____
Class/Teacher _____

SCIENCE AMI PACKET # 23

The Short-Term Impact of the Zebra Mussel Invasion

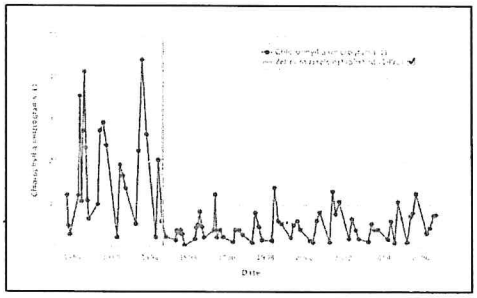
by American Museum of Natural History

An estuary is a dynamic body of water where freshwater and saltwater meet. The Hudson River is more than a river: it's a tidal estuary, where the saltwater from the Atlantic Ocean meets the freshwater running off the land.

An estuary is a dynamic body of water where freshwater and saltwater meet.
The Hudson River is more than a river: it's a tidal estuary, where the saltwater
from the Atlantic Ocean meets the freshwater running off the land.

Zebra mussels first appeared in the Hudson River in May 1991. Within a year, scientists estimated their numbers had reached 500 billion, an enormous amount! In fact, if you had a huge balance and put zebra mussels on one side, they would outweigh all the other consumers in the ecosystem combined: all the fish, zooplankton, worms, shellfish, and bacteria.

WATCH WHAT HAPPENSThis graph shows the change in the amount of phytoplankton (represented by the blue line) over 18 years in the Hudson River. (The amount of phytoplankton is measured by the amount of chlorophyll they contain.) Look at the gray line above: there's a big change in the blue line when the zebra mussels first arrived in the river. What do you think happened?



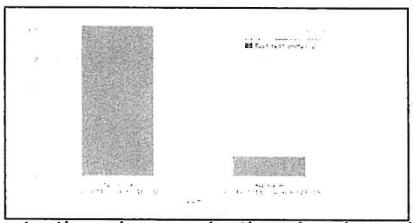
Phytoplankton and zooplankton populations drop sharply

Before the invasion, scientists developed computer models to predict the effect of the zebra mussels. But they were still surprised by what happened. By 1992, there were so many zebra mussels, scientists estimate they were filtering a volume of water equal to all of the water in the estuary every 1-4 days during the summer. In the years right after the invasion, phytoplankton fell by 80 percent. Zooplankton (which eat phytoplankton) declined by half. And the smallest zooplankton (called micro-zooplankton), fell by about 90 percent.By 1994, scientists hypothesized that zebra mussels were responsible for these changes. The mussels were filtering huge amounts of phytoplankton from the water. Less phytoplankton meant less food for zooplankton, so their numbers were shrinking too. Competition was taking place and the zebra mussels seemed to be winning.

The food web changes

In the next few years, the data supported their hypothesis. Scientists made other findings too. They observed that the decrease in phytoplankton and zooplankton had effects that rippled throughout the food web. With less food available, there were fewer - and smaller - fish in the open river. The population of native mussels, which also eat plankton, shrank from more than one billion to almost none.

A BIG CHANGE This bar graph shows the change in the average number of rotifers (a type of zooplankton) in the Hudson River before and after the zebra mussels became established in 1992.



But some populations increased - likely due to the change in the river's turbidity, or cloudiness. With far less phytoplankton, the water got clearer. During the summertime, visibility went from 3-4 to 4-8 feet. Since sunlight reached deeper into the water, rooted aquatic plants such as water celery increased by up to 40 percent. Populations of fish living in these shallow weeds increased. Another surprising result was that dissolved oxygen in the river fell by about 15 percent. The drop wasn't enough to endanger any aquatic animals, but it was still a huge amount of oxygen. Scientists think the enormous zebra mussel populations were consuming a

lot of oxygen very quickly. At the same time, the mussels were removing the phytoplankton that produce oxygen.

Questions about the long-term impact

What happens once an invasive species becomes established in an ecosystem? The invader's population might evolve to adapt to its new home. Or native species might evolve to better tolerate or even feed on the invader. Or other species might arrive that are more resistant to the effects of the invasion. Once scientists had a clear picture of the invasion's immediate impact, they started to wonder about long-term consequences like these.

ALONG THE RIVER The Hudson River flows 315 miles (507 km) through New York with over 1,000 cubic feet of water passing by every second (or 600 cubic meters per second). Scientists want to understand how the river changes over time and space.

The Short-Term Impact of the Zebra Mussel Invasion - Comprehension Questions

_____1. How many zebra mussels were there in the Hudson River within a year of their first appearance?

A. 500 billion C. 500 thousand
B. 500 million D. 500

_____2. This text explains a cause-and-effect pattern in the Hudson River ecosystem that began with the zebra mussel invasion. What effect did the zebra mussels have on the phytoplankton in the Hudson River?

A. The number of phytoplankton in the river rose by a little.
B. The number of phytoplankton in the river fell by a little.
C. The number of phytoplankton in the river rose by a lot.
D. The number of phytoplankton in the river fell by a lot.

_____3. Phytoplankton are one of the most important parts of the food web in the Hudson River. What evidence supports this conclusion?

A. The population of phytoplankton dropped sharply soon after zebra mussels invaded the river.
B. The decrease in phytoplankton caused a decrease in the river's zooplankton, fish, and native mussel populations.
C. The decrease in phytoplankton meant that the river's turbidity, or cloudiness, decreased.
D. Zebra mussels caused oxygen levels in the river to drop, partly by removing the phytoplankton that produce oxygen.

_____4. Which population was helped by the invasion of the zebra mussels?

A. phytoplankton C. water celery
B. zooplankton D. native mussels

_____5. What is the main idea of this text?

A. In the years right after the invasion, zebra mussels evolved and adapted to the Hudson River ecosystem.
B. In the years right after the invasion, zebra mussels caused a number of changes in the Hudson River ecosystem and food web.
C. In the years right after the invasion, zebra mussels did not have a major impact on the Hudson River ecosystem or food web.
D. At first, zebra mussels did not have any impact on the Hudson River ecosystem, but their impact increased over time.

_____6. Read these sentences from the text. "In the years right after the invasion, phytoplankton fell by 80 percent. Zooplankton (which eat phytoplankton) declined by half. And the smallest zooplankton (called micro-zooplankton), fell by about 90 percent." Based on these sentences, what does the word "decline" most nearly mean?

A. to drop in number C. to increase
B. to fall over D. to stay the same

_____7. Choose the answer that best completes the sentence. With far less phytoplankton, the water got clearer. _____, rooted aquatic plants such as water celery increased by up to 40 percent.

A. In contrast C. As a result
B. However D. Similarly

8. What are two populations that decreased as an immediate result of the zebra mussel invasion? _____

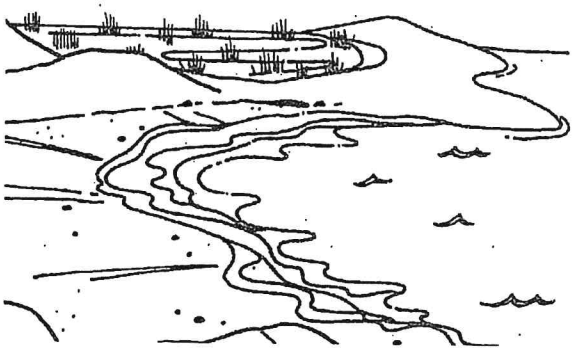
9.One direct effect of the zebra mussel invasion was a decrease in the cloudiness of the water. How did this affect species in the Hudson River ecosystem?_____

Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 24

Tidal Ranges

The difference between the average high tide and the average low tide is called the average tidal range. Because of the varying shapes of the coastlines, different places have different average tidal ranges. Read the chart. It shows the average tidal ranges for different places in the United States.



PLACE	AVERAGE TIDAL RANGE IN METERS
Portland, Maine	2.7
Boston, Massachusetts	2.9
New York City, New York	1.4
Savannah, Georgia	2.2
Key West, Florida	0.4
Galveston, Texas	0.4
San Diego, California	1.2
San Francisco, California	1.2
Seattle, Washington	2.3
Cordova, Alaska	3.0
Honolulu, Hawaii	0.4

Read the selection. Then, use the chart and write complete sentences to answer the questions.

1. Which place on the chart has the highest average tidal range?

_____

2. Which place has a higher average tidal range: Portland, Maine, or Seattle, Washington?

_____

3. Which three places have the same average tidal range?

_____

4. What is the average tidal range in Savannah, Georgia?

_____

5. What is the difference between the highest average tidal range and the lowest average tidal range on the chart?

_____

Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 24

Time Line: 1860–1960

A time line shows the order of events in a certain period of time. The events and time they happen are presented along a vertical or horizontal line. This line shows the sequence of events. The time line below shows important events in Arizona history from 1860 to 1960.

Time Line of Arizona History from 1860–1960

1860

1863 Arizona becomes a territory (a part of the U.S. that is not a state).

1878 The Southern Pacific Railroad reaches Yuma from the West.

1880

1885 The University of Arizona opens in Tucson.

1900

1912 On February 14, Arizona becomes a state.

1920

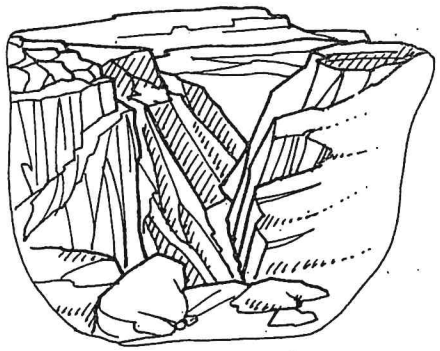
1919 Grand Canyon National Park opens.

1936 Hoover (Boulder) Dam is completed.

1940

1959 Glen Canyon Bridge opens.

1960



Use the time line to answer the questions. Darken the circle by the best answer.

1. The University of Arizona opened in Tucson in _____.
   - Ⓐ 1878
   - Ⓑ 1880
   - Ⓒ 1885
   - Ⓓ 1888

2. The _____ reached Yuma in 1878.
   - Ⓐ Grand Canyon
   - Ⓑ University of Tucson
   - Ⓒ Glen Canyon Bridge
   - Ⓓ Southern Pacific Railroad

3. Before Arizona became a state, _____.
   - Ⓐ Grand Canyon National Park opened
   - Ⓑ Arizona became a territory
   - Ⓒ Hoover Dam was completed
   - Ⓓ Glen Canyon Bridge opened

4. After Grand Canyon National Park opened, _____.
   - Ⓐ the University of Arizona opened
   - Ⓑ Arizona became a state
   - Ⓒ Hoover Dam was completed
   - Ⓓ the Southern Pacific Railroad reached Yuma

Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 25

The Woolly Mammoth

by Edward I. Maxwell

The closest relative of the woolly mammoth is the Asian elephant. The main difference between the two is that the mammoth had an incredible coat of fur, made up of an outer layer of coarse "guard hair" with an inner layer of curly wool. The last known group of mammoths died off, or became extinct, around 4,000 years ago. The mammoth roamed the northern lands of the world during a period known as the Ice Age. It was among the largest land mammals to roam the earth. The mammoth was a tough beast and was able to endure extreme weather conditions and frigid temperatures.

The mammoth shared these northern territories with other mammals during the Ice Age. The most important mammal to interact with the mammoth, however, was the human. When the mammoths were at their greatest numbers, humans mainly hunted animals and foraged for food. These hunters would follow herds of animals over incredibly long distances in order to hunt them. The woolly mammoth provided a great amount of food and other important things for these humans. The fur, for example, could be used to make coats and blankets that would help keep out the cold in the icy environment. Bones from the mammoth could be used to make tools and weapons. Because one mammoth provided so many useful things to a large group of people, early humans would follow the herds wherever they went. There is even a theory that the humans followed the mammoth over a land-bridge from Asia into the Americas.

How do we know that the mammoth existed? Scientists have found countless mammoth fossils, or bones, all over the world. In fact, scientists have even found very well-preserved, or mummified, mammoth bodies in sheets of ice. These mummified remains are part of the reason scientists came to know exactly how hairy and woolly the mammoths actually were. Another reason scientists know so much about mammoths is that early humans painted pictures of them on cave walls. These pictures depicted hunting parties chasing after mammoth herds and trying to bring down the great beasts with spears.

Certain features of the woolly mammoth allowed it to survive very well in this harsh environment. The most obvious feature was, of course, its hair and wool. This coat helped the mammoth maintain a warm and stable body temperature no matter how cold the landscape became. The coarse hair would keep ice and frost from collecting too close to the mammoth's body, which left the softer, wool inner-layer free to keep the animal extra warm. Another feature was the mammoth's large tusks. These tusks were very long and curved out wide from the mammoth's head. It was able to use these tusks for protection. Besides humans, there were other predators the mammoth had to face. The American lion was an incredibly large predatory cat. The mammoth's tusks could be swung into an attacking lion to keep the predator away or even injure it. Mammoths driven to stand and fight or protect their young might even have charged humans with their large tusks, looking to make a crushing blow.

Humans were very smart hunters, however. Hunting in large parties, the humans would most likely isolate a mammoth from its herd, and attack it all at once in great numbers. Wielding their spears expertly, the humans would bring the mammoth down as quickly as possible, and then set about butchering it with stone scraping tools, axes and knives. It is believed that the success of human hunters was a large part of why the mammoth became extinct. Another reason had to do with the climate. The Ice Age did not last forever. The earth's temperature rose again. The glacial ice receded, and many scientists believe the mammoth was not well suited for the warmer weather. The environment that had once been so hospitable to a great animal very well-adapted to the frigid conditions gradually became more hostile. Finally, the last group of mammoths died off 4,000 years ago. Now all that remain of the mammoth are fossilized bones and mummified mammoth bodies that were frozen over a long time ago.

The Woolly Mammoth - Comprehension Questions

_____1. What is the woolly mammoth?

A. a picture painted on cave walls by early humans
B. a land-bridge that humans may have followed from Asia into the Americas
C. a large land mammal that died off around 4,000 years ago
D. a large predatory cat that lived in the Americas during the Ice Age

_____2. What does this passage describe?

A. This passage describes the spears that early humans used.
B. This passage describes what happened to the American lion when the Ice Age ended.
C. This passage describes the Asian elephant.
D. This passage describes woolly mammoths.

_____3. Woolly mammoths had features that helped them live in a harsh environment. What evidence from the passage supports this statement?

A. The hair on the coat of woolly mammoths kept ice from collecting too close to their bodies.
B. The last known group of woolly mammoths died off around 4,000 years ago.
C. Pictures on cave walls show hunting parties chasing after herds of woolly mammoths.
D. All that now remains of woolly mammoths are fossilized bones and mummified bodies.

_____4. What made the environment of woolly mammoths harsh?

A. rising temperatures and Asian elephants
B. cold weather and predators such as humans and lions
C. coats made up of coarse hair and a softer inner-layer
D. a land-bridge that connected Asia with the Americas

_____5. What is this passage mostly about?

A. the Ice Age, how it began and ended, and its effect on the American lion and early humans
B. the woolly mammoth, how early humans interacted with it, and why it may have died off
C. the possible reasons that woolly mammoths died off around 4,000 years ago
D. the mammoth fossils that scientists have found and what scientists have learned from those fossils

_____6. Read the following sentence: "The fur, for example, could be used to make coats and blankets that would help keep out the cold in the icy environment." What does the word environment mean?

A. the study of animal bones and mummified bodies
B. a cave in which people have painted pictures of woolly mammoths
C. a coat with coarse hair on the outside and curly wool on the inside
D. the place and conditions in which someone or something lives

_____7. Choose the answer that best completes the sentence. Humans continued to live after the Ice Age; _____, woolly mammoths did not.

A. as an illustration
B. in particular
C. however
D. third

8. Describe the tusks of the woolly mammoth. _____

_____

9. How might the woolly mammoth have used its tusks for protection? _____

_____

10. The passage describes the woolly mammoth as a "tough beast." What made it tough? Explain your answer using evidence from the passage _____

_____

_____

DOUBLE CROSS

1. What do you get when you cross a porcupine with a gopher?

20	0	22	81	81	62	1	7	32	0	60	1	62	20	24	26

2. What do you get when you cross a pelican with a lightning bolt?

20	100	32	8	62	1	62	90	0	5	32	90	100	32	1	1

TO DECODE THE ANSWERS TO THESE TWO QUESTIONS:

Evaluate each expression below using the values

$a = 1$, $b = 2$, $c = 3$, $w = 0$, $x = 10$, and $y = 6$.

Each time your answer appears in the code, write the letter of that exercise above it.

(H) xy

(A) $b + (cy)$

(W) $x - (ac)$

(S) $(7b) + (4c)$

(E) $(8x) - (3y)$

(U) $(ax) + (by)$

(B) $(2x) \cdot (b + c)$

(G) $\dfrac{(x + y)}{(c - a)}$

(R) $\dfrac{(xy)}{(x + b)}$

(T) $\dfrac{(wa)}{b}$

(K) $(x - y) \cdot (y - w)$

(N) $c \cdot (y + c) \cdot (y - c)$

(C) $\dfrac{(3x)}{b} \cdot (abc)$

(I) $(8bc) - (w + x + y)$

(L) $\dfrac{(x - b)}{(y + b)}$

OBJECTIVE 1–a: To evaluate variable express ons.

Why Did Simeon Wrench Sleep Under His Car?

Simplify or evaluate each expression below, as directed. Find your answer at the bottom of the page and write the letter of that exercise below it.

SIMPLIFY:

(E) $8 + (9 \cdot 3)$

(I) $(8 + 9) \cdot 3$

(A) $14(10 \div 2)$

(Y) $(12 \cdot 3) - (9 \cdot 2)$

(T) $(4 \cdot 10) + (75 \div 25)$

(E) $\dfrac{80 - 3}{8 + 3}$

(P) $13 + [2(9 - 6)]$

SIMPLIFY:

(A) $\dfrac{12 + 8}{12 - 2} + \dfrac{8}{2}$

(O) $3[5(48 \div 12)]$

(T) $\dfrac{50 - [3(7 - 1)]}{2}$

(H) $[4(30 - 5)] \div \dfrac{10}{2}$

(E) $\dfrac{12(15 \div 3)}{(20 \cdot 5) - (20 \cdot 2)}$

(D) $5 + [4 \cdot 3(2 + 1)]$

(W) $\left[\dfrac{6 \cdot 2(8 - 3)}{11 + 4}\right] \cdot 6$

EVALUATE if

$a = 1$ $\quad m = 3$ $\quad x = 6$

$b = 2$ $\quad n = 10$ $\quad y = 0$

(K) $\dfrac{7m + 1}{b}$

(N) $(3n - 2m)(a + b)$

(L) $\dfrac{2(n + x)}{n - x}$

(U) $x[b(m + 1) - 3]$

(W) $\dfrac{mn - 5y}{a + b}$

(O) $(n - a)(n - b)(n - m)(n - n)$

20	7	24	6	72	16	35	41	43	60	10	70	11	1	30	19	0	51	8	18

CLASS PLAYGROUND

Clock Half Hour Analog

Name _____ Date _____

Read the clock and write the time.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Multiplying With 1, 2, 3, 4, 5, 6, and 7 (A)

Note: The other factor has a range of 1 to 10.

2 x 5	5 x 2	3 x 4	1 x 3	5 x 1	3 x 10	4 x 9	3 x 1	6 x 9	2 x 2
1 x 2	5 x 7	4 x 6	3 x 2	1 x 3	3 x 6	1 x 6	6 x 6	7 x 1	3 x 10
1 x 3	5 x 4	2 x 6	2 x 5	2 x 1	3 x 4	3 x 2	1 x 6	5 x 4	8 x 3
3 x 4	5 x 7	5 x 2	7 x 5	4 x 2	10 x 4	8 x 7	6 x 2	9 x 2	6 x 2
2 x 1	1 x 4	7 x 3	6 x 3	5 x 4	3 x 9	6 x 10	7 x 1	5 x 3	2 x 1
8 x 6	9 x 1	7 x 5	3 x 5	9 x 4	3 x 7	1 x 5	6 x 3	6 x 3	1 x 7
7 x 5	7 x 3	4 x 2	2 x 7	7 x 7	6 x 3	2 x 2	5 x 2	7 x 7	8 x 2
1 x 2	7 x 7	4 x 10	3 x 10	2 x 6	4 x 3	4 x 7	8 x 2	7 x 7	5 x 1
7 x 4	5 x 7	3 x 10	4 x 5	1 x 7	9 x 7	6 x 1	9 x 2	8 x 6	5 x 6
4 x 6	8 x 6	1 x 4	8 x 2	5 x 8	1 x 3	2 x 10	4 x 3	5 x 3	1 x 9