KCS @ home

Eighth Grade
Math

Week of May 11, 2020
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Leo likes playing a video game where he has to zap Zombies and turn them into statues before they invade a town. In the game, Zombies hide everywhere. Leo's goal is to clear all the Zombies to make the town safe again.

To advance to the next level you have to zap all the Zombies in that level. Each level has the same number of Zombies and you get the same number of points for each zapped Zombie. As you move through the levels, the Zombies get harder to zap.
Leo made the table below to show a relationship between the number of Zombies zapped and points earned.

Level	2	4	6	8	10	12
Maximum number of Zombies zapped		140	210		350	
Points earned	7,700		23,100	30,800		

1. Complete the table above. Look for relationships and patterns in the table. Describe at least three patterns.

2. Describe the ratios between the levels and the maximum number of Zombies zapped. How are these ratios related?

3. What are the ratios of the number of Zombies zapped to the number of points earned? How are these ratios related?

4. Name at least two different rates you can find in this game.

5. List the unit rates in this problem? How do you know the rates are unit rates?

6. Graph each rate. How do they support your findings from Question 5?

7. Write an equation for each relationship described below.
    a. the level in the game and the number of Zombies zapped
    b. the number of Zombies zapped and the points earned
    c. the level in the game and the points earned

8. How did you use a unit rate to write each equation?

Answer Key

1.

Level	2	4	6	8	10	12
Number of Zombies Zapped	70	140	210	280	350	420
Points Earned	7,700	15,400	23,100	30,800	38,500	46,200

Possible patterns: Levels increase by 2; Zombies zapped increases by 70 for every 2 levels; Points earned increases by 7,700 for every 70 Zombies zapped; Each level you earn 3,850 for every 35 Zombies zapped; You can earn 3,850 points in every level for zapping Zombies.

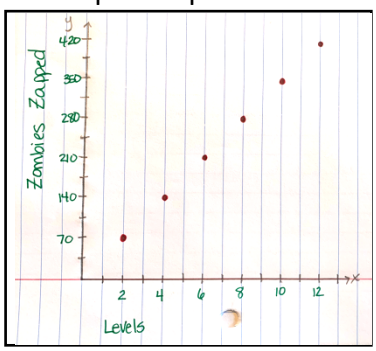
2. Possible answers: There is a ratio of 2 levels: 70 zapped Zombies; There is a ratio of 6 levels: 210 zapped Zombies; There is a ratio of 12 levels: 420 zapped Zombies; There is a ratio of 1 level: 35 zapped Zombies; There are 35 Zombies per level; All ratios are equivalent.

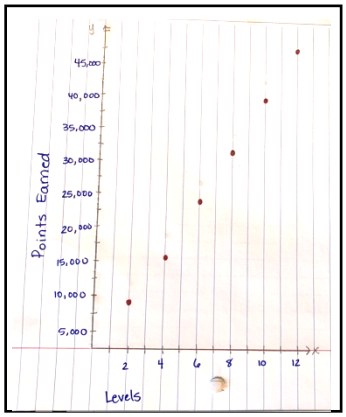
3. Possible answers: There is a ratio of 70 Zombies zapped: 7,700 points earned; There is a ratio of 210 Zombies zapped: 23,100 points earned; There is a ratio of 1 Zombie zapped: 110 points earned; For each level the ratio of the number of Zombies zapped compared to the number of points earned is equivalent; Each zapped Zombie is worth 110 points.

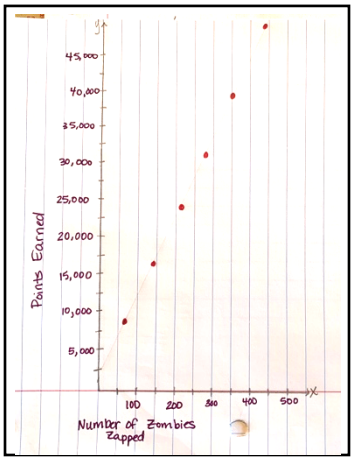
4. Possible Answers: There is a rate between the levels and Zombies zapped; There is a rate between Zombies zapped and points earned; There is a rate between levels and points earned.

5. Possible answers: Answers may include:
I believe all the rates in the table are constant. All numbers are increasing by a constant factor. As the levels increase by two the number of Zombies zapped increases by 70, and the number of points increases by 7,700. These rates can also be described as follows: for every level you have to zap 35 Zombies; for every Zombie zapped you score 110 points; and for every level you complete you score 3,850 points.

6.Sample Graphs:







7. a. $z = 35l$; b. $p = 110z$; c. $p = 3850l$

8. Possible answer: The table helped me. I found the constant rate of change which became the slope in the equation. From the graph I saw that it was a linear relationship and then found the slope (the amount of vertical change for every one unit of horizontal change). Finally, I wrote the equation y = slope times x.

Video Streaming

You work for a video streaming company that has two monthly plans to choose from:

Plan 1: A flat rate of $7 per month plus $2.50 per video viewed

Plan 2: $4 per video viewed

1. What type of functions model this situation?

2. Define variables that make sense in the context, and then write an equation with cost as a function of videos viewed, representing each monthly plan.

Plan 1: _____ Plan 2: _____

3. How much would 3 videos in a month cost for each plan? 5 videos?

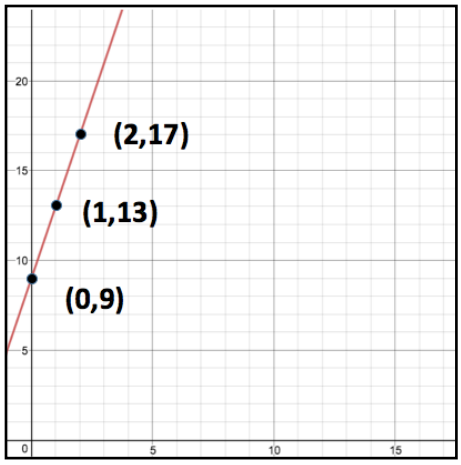
Plan 1: _____ Plan 2: _____

_____ _____

4. Compare the two plans and explain what advice you would give to a customer trying to decide which plan is best for them, based on their viewing habits.

PART 2

Your cousin recently signed up for a competitor's video streaming service so you decided to see what their plan cost. You were able to find the following graph:



5. Write an equation in slope-intercept form that represents the cost of videos using this plan.

6. Compare your cousin's plan to the plans your company offers.

Answer Key: Video Streaming

1. Each plan can be modeled by a linear function since the constant rate per video indicates a linear relationship.

2. We let C_1 be the monthly cost of Plan 1, C_2 be the monthly cost of Plan 2, and V be the number of videos viewed in a given month. Then:

$$C_1=7+2.5V$$
$$C_2=4V$$

3. 3 videos on Plan 1: $C_1=7+2.5(3)=\$14.50$

5 videos on Plan 1: $C_1=7+2.5(5)=\$19.50$

5 videos on Plan 2: $C_2=4(3)=\$12$

5 videos on Plan 2: $C_2=4(5)=\$20$

4. Plan 1 costs less than Plan 2 for 5 or more videos per month. A customer who watches fewer than 5 videos per month should choose Plan 2. A customer who watches 5 or more videos per month should choose Plan 1.

5. $y = 4x + 9$

6. The cousin's plan starts with a flat rate of $9 with $4 per video viewed. This plan will always be more expensive than the others. The only way this would be reasonable is if the quality or speed of this service was worth the extra cost.

Lessons Adapted from:
Math Solutions From Houghton Mifflin Harcourt
Algebra Zapping Zombies
https://mathsolutions.com/ms_classroom_lessons/algebra-zapping-zombies-a-lesson-for-grades-6-8-carmen-whitman/
Illustrative Math
Video Streaming
http://tasks.illustrativemathematics.org/content-standards/8/F/B/4/tasks/247

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Eighth Grade
Social Studies

Week of May 11, 2020
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KCS@home 8th Grade Social Studies: The Jacksonian Era (mini)

*There will be a short lesson of a Knox County teacher to accompany this task available on the KCS YouTube Channel and KCS TV.

Instructions: Read the excerpt below and answer the questions about the Trail of Tears. Try to remember our lesson from Andrew Jackson and see how you can connect your content where possible. Answer questions in complete sentences and cite answers when possible or prompted.

Account from Army Interpreter Private John G. Burnett. Story told in 1890.

"I saw helpless Cherokees arrested and dragged from their homes, and driven at the bayonet point into the stockades. And in the chill of a drizzling rain on an October morning, I saw them loaded like cattle into six hundred and forty-five wagons and started toward the west.

"One can never forget the sadness and solemnity of that morning. Chief John Ross led in prayer and when the bugle sounded and the wagons started rolling many of the children rose to their feet and waved their little hands good-by to their mountain homes, knowing they were leaving them forever. Many of these helpless people did not have blankets and many of them had been driven from their home barefooted.

"On the morning of November the 17th, we encountered a terrific sleet and snow storm with freezing temperatures and from that day until we reached the end of the fateful journey on March the 26th, 1839, the sufferings of the Cherokees were awful. The trail of the exiles was a trail of death. They had to sleep in the wagons and on the ground without fire. And I have known as many as twenty-two of them to die in one night of pneumonia due to ill treatment, cold, and exposure. Among this number was the beautiful Christian wife of Chief John Ross. This noble hearted woman died a martyr to childhood, giving her only blanket for the protection of a sick child."

1. Complete the following sentences using the resource above.
   a. The person writing this excerpt is a _____. This means that their job during the Trail of Tears was to _____.
   b. The writer describes what happens during the Trail of Tears and sounds _____. I can tell they sound _____ because _____ _____.
2. Describe the conditions for the Cherokee traveling on the Trail of Tears. Cite 2 examples from the text to explain your description.
   a. _____ _____
   b. _____ _____
3. Why were the Cherokee and other American Indians leaving land and traveling west in what became known as the Trail of Tears?
   a. _____ _____
4. Make an inference based on the reading and your knowledge of US history, why did many Cherokee die along the route to west during the Trail of Tears?
   a. _____ _____
5. How does the Indian Removal Act passed by Andrew Jackson impact the Trail of Tears?
   a. _____ _____

Eighth Grade
ELA

Week of May 11, 2020
knoxschools.org/kcsathome

Elements of Humor: Comic Wordplay

Monday: Read this page. Then read the poem and highlight at least three humorous puns that you can visualize.

VOCABULARY

LITERARY

A **pun** is a funny play on words. Puns are created by using words that suggest other words with the same sounds but different meanings.

Learning Targets

- Interpret the use of wordplay in poetry, drama, and previously read texts.
- Write an original poem using puns.

Comic Wordplay

Comic wordplay is a literary technique in which the words that are used become the main subject of the text, primarily for the intended effect of amusement. A **pun** is a form of wordplay that makes use of similar-sounding words to cause a comedic effect.

Setting a Purpose for Reading

- As you read the poem, underline words and phrases that demonstrate the author's use of puns.
- Circle unknown words and phrases. Try to determine the meaning of the words by using context clues, or a dictionary.

Is Traffic Jam Delectable?

by **Jack Prelutsky**

Is traffic jam **delectable**,
does jelly fish in lakes,
does tree bark make a racket,
does the clamor rattle snakes?
Can salmon scale a mountain,
does a belly laugh a lot,
do carpets nap in flower beds
or on an apricot?
Around my handsome bottleneck,
I wear a railroad tie,
my treasure chest puffs up a bit,
I blink my private eye.
I like to use piano keys
to open locks of hair,
then put a pair of brake shoes on
and dance on **debonair**.
I hold up my electric shorts
with my banana belt,
then sit upon a toadstool
and watch a tuna melt.
I dive into a car pool,
where I take an onion dip,
then stand aboard the tape deck
and sail my penmanship.
I put my dimes in riverbanks
and take a quarterback, and
when I fix a nothing flat I
use a lumberjack.
I often wave my second hand
to tell the overtime,

before I take my bull pen up
to write a silly rhyme.

delectable: delicious
debonair: charming

Tuesday: On a separate sheet of paper answer 1-2.

1. Sketch at least one of the puns on a piece of paper and share it with a family member.
2. Explain the two meanings of the word or phrase that creates the pun. Be sure to use precise diction and discuss how the author uses puns for humorous effect.

Wednesday: Answer questions 3-4.

3. At home, share your sketches and read aloud the corresponding pun. Explain the two meanings of the word or phrase that creates the pun. Be sure to use precise diction and discuss how the author uses puns for humorous effect.

4. With a family member, read the poem and discuss the puns that you notated with question marks. Work together to make meaning of these.

Thursday: Answer Question 5.

5. Referencing the text as an example, define pun and create some examples of your own puns. Then use those puns to create a short poem of your own.

Friday: Watch Abbott and Costello's "Who's On First" on YouTube.

6. Explain why Abbott and Costello are having difficulty understanding each other.

7. How is this wordplay an example of high comedy?

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Eighth Grade
Science

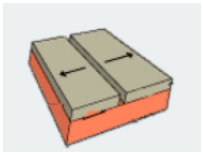
Week of May 11, 2020
knoxschools.org/kcsathome

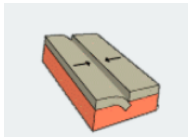
8th Grade Science: Week 6, May 11
Why aren't there volcanoes in Tennessee?

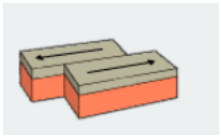
Directions: This handout goes with a KCS Teacher Video. If you have access to the video, watch the video before doing this activity. You can find the videos here https://www.knoxschools.org/Page/21816

Earthquakes, Volcanoes, and Plate Tectonics:

Introduction: Earth's surface is made of large tectonic plates that are in constant but slow motion. In places where plates share a boundary, convection currents in the mantle cause the plates to move apart, collide into, or even slide past each other. When this motion occurs, earthquakes or volcanoes may occur. On Earth, there is a pattern that is formed where earthquakes and volcanoes occur. We call this the pattern the "Ring of Fire".


move apart


collide into


slide past each other


earthquake

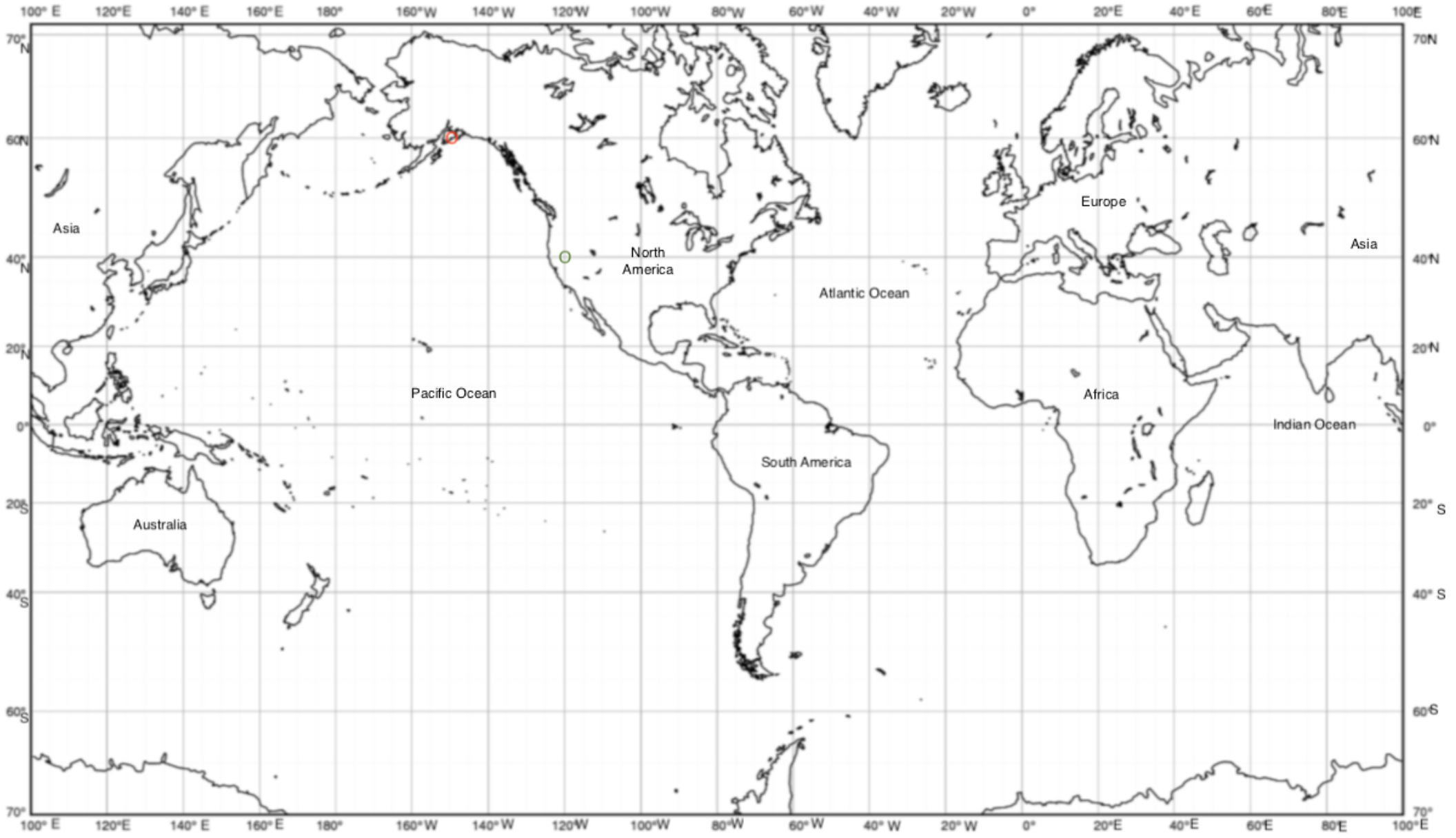

volcano

Objective: Plot the coordinates of Earth's volcanoes and earthquakes to find the Ring of Fire.
Materials: map, color pencils, coordinate table
Procedure:

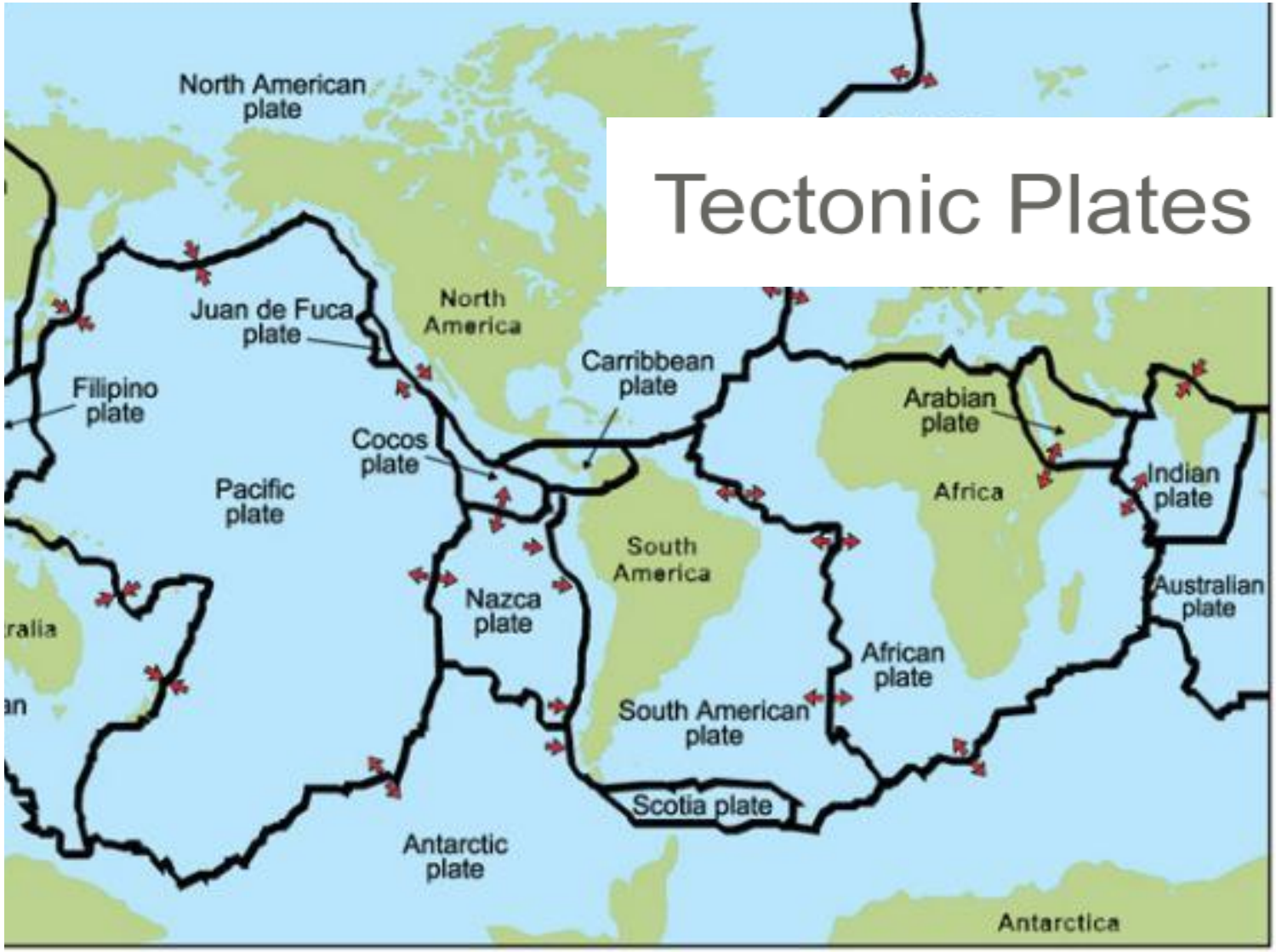
1. Examine the world map and predict where you think the most ***volcanoes*** occur. Shade that region with an orange colored pencil.
2. Examine the world map and predict where you think the most ***earthquakes*** occur. Shade that region with a blue colored pencil.
3. Use a red colored pencil to plot the volcanoes with the coordinates of latitude and longitude from the volcano table. The first one has been done for you.
4. Use a green colored pencil to plot the earthquakes with the coordinates of latitude and longitude from the earthquake table. The first one has been done for you.
5. Look for a pattern in the locations of the *majority* of *earthquakes* and volcanoes and trace it in yellow.
6. Label your shaded area "Ring of Fire".

Volcanoes				Earthquakes			
Longitude	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Latitude
150°W	60°N	145°E	40°N	120°W	40°N	125°E	23°N
70°W	35°S	120°E	10°S	110°E	5°S	77°W	4°S
120°W	45°N	105°E	5°S	121°E	14°S	74°W	44°N
61°W	15°N	160°E	55°N	140°E	35°N	68°W	47°S
105°W	20°N	123°E	38°N	150°W	61°N	70°W	30°S
75°W	0°	175°E	39°S	175°E	41°S	121°E	17°N

World Map


100° E
120° E
140° E
160° E
180°
160° W
140° W
120° W
100° W
80° W
60° W
40° W
20° W
0°
20° E
40° E
60° E
80° E
100° E
70° N
60° N
40° N
20° N
0°
20° S
40° S
60° S
70° S
Asia
North America
Europe
Asia
Atlantic Ocean
Pacific Ocean
Africa
Indian Ocean
South America
Australia

Tectonic Plates



Analysis:

1. Compare your outline of the Ring of Fire with the map of tectonic plates. What do you notice about the location of the Ring of Fire?

   _____
   _____

2. Consider what you know about plate boundary interactions. What types of plate movement occurs in the Ring of Fire? (move apart, collide, slide past each other)

   _____
   _____

3. Explain the relationship between volcanoes and earthquakes and the Ring of Fire.

   _____
   _____

4. Why might more earthquakes and volcanoes occur along the Ring of Fire than anywhere else on earth?

   _____
   _____

5. Scientists can't predict exactly when an earthquake will occur. If you were asked to try to predict the location of the next earthquake, what would you answer? Explain.

   _____
   _____

6. East Tennessee sometimes experiences earthquakes. Why are there no volcanoes in East Tennessee?

   _____
   _____