## **Christina School District Assignment Board**

Student's First & Last Name\_\_\_\_\_ Grade\_\_\_\_\_ Student ID/Lunch # \_\_\_\_\_ School \_\_\_\_\_ Grade\_\_\_\_\_

Grade Level: 6th

Week of May 11th, 2020

|     | Day 1  | Day 2  | Day 3   | Day 4   | Day 5   |
|-----|--|--|---|---|---|
| ELA | Complete the<br>Persuasion Is All<br>Around You sheet. | Read <b>The Dangers of</b><br><b>the Seflie</b> article. As<br>you read, look for the<br>author's claim and<br>supporting details.<br>Then complete the last<br>box on the <b>Persuasion</b><br><b>Is All Around You</b><br>sheet. | Re-read the article,<br>underline and identify<br>the persuasive<br>techniques employed<br>by the author. In a<br>paragraph identify the<br>claim or intent of the<br>author, identify and<br>explain the techniques<br>used and whether or<br>not they were effective<br>in persuading the<br>reader. If you choose<br>not to write a<br>paragraph make a<br>chart similar to the<br>Check the Strategies<br>page. Identify and<br>explain the techniques<br>used. | Write a response to<br>the author of <b>The</b><br><b>Dangers of the</b><br><b>Seflie.</b> Do you<br>agree or disagree<br>with the argument?<br>Defend your<br>response by making<br>a clear claim with<br>supports and use at<br>least 2-4 of the<br>persuasive<br>techniques. | To be quarantined<br>or Not to be<br>quarantined.<br>Write a letter to<br>Governor Carney<br>stating your claim<br>on if he should lift<br>the stay-at-home<br>restrictions. Make<br>sure you clearly<br>identify your claim<br>with 2-3 supports<br>and use 2-3 of the<br>persuasive<br>techniques to<br>support your<br>argument. You can<br>also create a<br>cartoon if you<br>choose not to write<br>the letter. The<br>cartoon must state<br>your claim and use<br>1-2 techniques. |

# Christina School District Assignment Board

| Student's First & Last Name |    | st & Last Name  | Studen  | t ID/Lunch #   | School  | Grade   |
|-----------------------------|----|---|---|--|---|---|
| Math                        | 6  | Division with Fractions &<br>Decimals<br>Answer "Which One<br>Doesn't Belong?" and<br>justify your choice.<br>(attached) Read Math<br>Notes: Multiplicative<br>Inverses and Reciprocals.<br>Complete 7-57 and 7-58. | Complete 7-59 and 7-60.<br>(attached) Refer to Math<br>Notes if needed.   | Complete 7-61 and 7-62.<br>(attached) Refer to Math<br>Notes if needed.  | Complete 7-64 and 7-<br>65. (attached) Refer to<br>Math Notes if needed.  | Journal Entry:<br>Explain how to decide<br>what fraction to use in<br>a Super Giant One to<br>eliminate one of the<br>fractions in a division<br>problem. If you need<br>help getting started,<br>review the information<br>in the Math Notes<br>box. Title this entry<br>"Using a Super Giant<br>One" and label it with<br>today's date. |
|                             | 6+ | Connecting Addition &<br>Subtraction<br>Answer "Which One<br>Doesn't Belong?" and<br>justify your choice.<br>(attached) Complete 3-39,<br>3-40, 3-41, and 3-42.<br>(attached)                                       | Read notes and examples<br>on page 33. (attached)<br>Without a calculator,<br>complete 3-43, 3-44, 3-<br>46, and 3-47. (attached)   | Journal Entry:<br>Explain how subtraction<br>and addition are related.<br>Include several examples<br>with diagrams to justify<br>your response. Title this<br>entry "Connecting<br>Addition and Subtraction"<br>and label it with today's<br>date. Without a<br>calculator, complete p. 34<br>#1-15. (attached) Refer<br>to notes and examples on<br>p. 33 if needed. | Without a calculator,<br>complete p. 34 #16-35.<br>(attached) Refer to<br>notes and examples on<br>p. 33 if needed.                                   | Complete Puzzle<br>Investigator Problem<br>(PIP) 6 -<br>Designing an<br>Apartment.<br>(attached)  |
| Science                     | 9  | <b>Dig This! (part 1):</b><br>Read the passage. Highlight and/or<br>underline important details from the<br>passage for understanding.  | <b>Dig This! (part 2):</b><br>Reread your notations from<br>yesterday and write your best<br>answers to the following:<br>a) What do paleontologists study?<br>b) How does the author describe<br>Earth?<br>c) Claim: Rocks are constantly<br>forming on Earth. What evidence<br>from the passage supports this | <b>Dig This! (part 3):</b><br>Reread passage and/or notations<br>as necessary. Write your best<br>answers to the following:<br>a) Why do scientists think that the<br>fossil from the bird they found links<br>birds to dinosaurs?<br>b) How are igneous rocks different<br>from sedimentary rocks?<br>c) What happens after a fossil's                                | Paleontology: The Big Dig<br>(part 1):<br>Read the passage. Highlight<br>and/or underline important<br>details from the passage for<br>understanding. | Paleontology: The Big Dig<br>(part 2):<br>Reread passage and/or<br>notations as necessary. Write<br>your best answers to the<br>following:<br>a) What are fossils?<br>b) Explain how fossils help<br>paleontologists learn what<br>Earth was like long ago.   |

## Christina School District Assignment Board

| Student's First & Last Name |   | Studer  | ent ID/Lunch # School   |  | Grade  |
|-----------------------------|---|---|---|--|--|
|                             |   | claim?<br>d) What are the 3 main types of<br>rock on Earth?           | bones are saturated with minerals?<br>d) Looking at the picture of the<br>Archaeopteryx, describe how it is<br>similar to and different from modern<br>birds. |  | Support your answer with evidence from the text.                         |
| Social<br>Studies           | Complete Activity 1 from<br>the document titled,<br>"World Road Trip" | Complete Activity 2 from<br>the document titled,<br>"World Road Trip" | Complete Activity 3 from<br>the document titled,<br>"World Road Trip"   | Complete Activity 4<br>from the document<br>titled, "World Road<br>Trip" | Complete Activity 5<br>from the document<br>titled, "World Road<br>Trip" |

## Day 1- Persuasion Is All Around You

You might be surprised at how many people and businesses are trying to convince you to do things every day. You only have to watch commercials, read the paper, look at the ads in your magazines, or read the billboards to see that persuasion is all around you.

**Instructions:** Examine the cartoon and advertisements below to determine the audience, technique(s) used and intent. Complete the chart.





## Dear Customers,

We launched Amazon Prime seven years ago with unlimited free two-day shipping on over a million different products.

Today, Prime includes instant streaming of over 30,000 movies and TV episodes, nearly 200,000 books in the Kindle Owners' Lending Library, and expanded free two-day shipping – now on over 15 million items.



Free Two-Day Shipping



Instant streaming of movies & TV shows



amazon

Kindle Owners' Lending Library

Despite all of these changes, one thing remains the same – Prime is still just \$79 a year. We think this makes Prime the best bargain in the history of shopping.

This holiday season, avoid the lines and enjoy free two-day shipping, even for last-minute gifts. And when you're not shopping, choose a book from the *New York Times* bestseller list, or sit back and watch a movie in stunning HD on one of our affordable <u>new Kindle devices</u> (starting at \$159 for the Fire and \$199 for the Fire HD).

If you haven't tried Amazon Prime, <u>sign up for a one-month</u> <u>free trial</u> today, and join the millions of members who have already discovered the convenience and improved speed that Prime delivers.

Happy shopping, happy reading, and happy watching,

Jeff Bezos Founder & CEO

|   | Who is trying to persuade you? | Who is the intended audience? | What are they trying<br>to persuade you to<br>do? | Do you think their<br>argument is<br>convincing? Why or<br>why not? |
|---|--------------------------------|-------------------------------|---|---|
| Ad 1  |                                |                               |   |   |
| Ad 2  |                                |                               |   |   |
| Ad 3  |                                |                               |   |   |
| Ad 4  |                                |                               |   |   |
| Ad 5  |                                |                               |   |   |
| Complete<br>on Day 2:<br>The<br>Dangers<br>of the<br>Selfie |                                |                               |   |   |

#### **CHECK THE STRATEGIES**

Take another look at the advertisements from the Persuasion Is All Around You assignment. What strategies do the advertisements use to try to persuade you? In the claim box identify the claim of each ad. Then read through each strategy and decide whether the ad used that strategy by writing yes or no in the second column. Then in the persuasive technique boxes identify one or more of the ads that used the technique, then explain how the author of the ads used the strategy. **All of the strategies may not be used. If none of the ads use the technique write none in the box.** 

| Persuasive Strategy                        | How the Author Used It |
|--|------------------------|
| Claim – States the main point or           | Ad1-                   |
| stance                                     | Ad2-                   |
|  | Ad3-                   |
|  | Ad4-                   |
|  | Ad5-                   |
| <b>Big Names</b> – Mentions experts and    |                        |
| important people to support the            |                        |
| argument                                   |                        |
| Logos – Uses logic, numbers, or facts      |                        |
| to support the argument                    |                        |
|  |                        |
| Pathos – Appeals to the audience's         |                        |
| emotions Ethos – Tries to build trust      |                        |
| and credibility                            |                        |
| Ethos – Tries to build trust and           |                        |
| credibility                                |                        |
|  |                        |
| Bandwagon-Taps into people's desire        |                        |
| to belong to a group                       |                        |
| Testimonial relies on the backing of       |                        |
| a celebrity expert or satisfied            |                        |
| customer                                   |                        |
| Appeal to Vanity- uses flattery to win     |                        |
| people over                                |                        |
|  |                        |
| Appeal to Fear- makes people feel as       |                        |
| if their safety, security, or health is in |                        |
| danger                                     |                        |
| Words with Positive Associations-          |                        |
| bring to mind something exciting,          |                        |
| comforting or desirable                    |                        |
| Words with Negative Associations-          |                        |
| call upon unpleasant images ,              |                        |
| experiences or feelings                    |                        |

## The Courier, Sept. 20, 2015

All too frequently, common sense takes a holiday with a cellphone in hand. According to the National Safety Council, an estimated 1.6 million accidents occur annually as distracted drivers text. The University of North Texas Health Science Center has determined 16,141 deaths occurred as a result of texting while driving. Those are frightening statistics for anyone on the road who could become the victim of such wanton negligence.

But the dangers in the digital divide don't stop there. In this Age of Internet Narcissism, dozens of deaths annually have been attributed to selfies — self-portraits using cellphones often taken in unusual circumstances.

A North Carolina driver was killed when she crashed into a truck while posting a selfie of herself singing Pharrell Williams' "Happy." A pilot in Colorado lost control of his Cessna 150, killing himself and his passenger. A Puerto Rican musician died while taking a selfie on a motorcycle. A Polish couple crossed a safety barrier and fell off a cliff in Portugal while taking a selfie as their children watched. Several instances of "death by selfie" occurred while the photographer inadvertently pulled the trigger of a loaded gun in the other hand.

Selfie sticks also figure in the carnage. One person was killed when he was struck by lightning. Another died after climbing atop a train when his selfie stick touched a high-voltage wire.

Russia announced a public campaign against selfies in dangerous situations after 10 reported deaths and 100 injuries this year. An official stated, "We would like to remind the citizens that the chase for 'likes' in social networks can lead to the road of death."

In Denver, officials closed a public park in late August after incidents involving individuals taking selfies with bears. That echoed an action at Banff National Park in Alberta, Canada, where a "bear bulletin" was issued to dissuade tourists from taking selfies with the animals alongside the road.

Earlier in the summer, rangers in Yellowstone National Park in Wyoming felt compelled to distribute pamphlets with an image of a man being gored and flung into the air by a bison. The animals, they noted, are "wild, unpredictable, and dangerous." They also weigh 3,500 pounds and have been clocked at 30 mph.

A 43-year-old Mississippi woman and her daughter were within 6 yards of a bison for their photo op when nature reared its ugly head. According to a park service statement, "They heard the bison's footsteps moving toward them and started to run, but the bison caught the mother on the right side, lifted her up and tossed her with its head." She suffered only minor injuries. Other selfie-related incidents involved a 16-year-old Taiwanese girl and a 62-year-old Australian man being gored by bison.

In San Diego — in an extraordinarily stupid and expensive instance of a selfie — a man picked up a rattlesnake from the brush for his photo documentation. The snake gashed his arm. It took the anti-venom stock at two hospitals to save him. The bill was \$153,161.25, including \$83,341.25 for pharmacy costs.

While squirrels on the Wartburg College campus are legendary for their friendliness, a selfie with the rodents can pose a risk. A Maine teenager in Florida to check out a college campus saw a squirrel sitting on a handrail in a park and took a selfie. The flash from the cellphone scared the squirrel, which climbed under his shirt and hung onto his back.

"I threw myself on the ground, and that scared him off," said Brian Genest, whose mother captured the incident on Instagram.

An estimated one million selfies are taken daily. Time Magazine has even ranked the Top Selfie Spots in the world — Makati City and Pasig, the Philippines at No. 1, followed by Manhattan, Miami and Orange County, Calif.

Obviously, the vast majority of selfies aren't hazardous to health — until the obsession becomes too adventurous. While the list of selfie-related accidents may seem stranger than fiction, the tragedy is that basic precautions to maintain life and limb were ignored in pursuit of a photo.

Math 6 – Week of May 11th

**Division with Fractions & Decimals** 

| Which One Doesn't Belong? Why? |  |   |  |  |
|--------------------------------|--|---|--|--|
|                                | $\frac{1}{4}$ , $\frac{8}{16}$ , $\frac{48}{64}$ | $\frac{3}{9}, \frac{2}{9}, \frac{1}{9}$           |  |  |
|                                | $\frac{1}{5}$ , $\frac{2.5}{5}$ , $\frac{4}{5}$  | $\frac{1}{16}$ , $\frac{8}{16}$ , $\frac{64}{16}$ |  |  |
|                                |  |   |  |  |

METHODS AND MEANINGS MATH NOTES **Multiplicative Inverses and Reciprocals** Two numbers with a product of 1 are called **multiplicative inverses**.  $\frac{8}{5} \cdot \frac{5}{8} = \frac{40}{40} = 1$  $\frac{1}{7} \cdot 7 = 1$  $3rac{1}{4}=rac{13}{4}$  , so $3rac{1}{4}\cdotrac{4}{13}=rac{13}{4}\cdotrac{4}{13}=rac{52}{52}=1$ In general  $a \cdot \frac{1}{a} = 1$  and  $\frac{a}{b} \cdot \frac{b}{a} = 1$ , where neither a nor b equals zero. Note that  $\frac{1}{a}$  is the reciprocal of a and  $\frac{b}{a}$  is the reciprocal of  $\frac{a}{b}$ . Also note that 0 has no reciprocal.

7-57 Donald and Ahmad were intrigued by homework problem 7-53 and decided to investigate other pairs of numbers that multiply together to get 1.

- a. They wrote the following number puzzles. Find the missing number in each of their puzzles and then show how you can find it using division. Note that two numbers whose product is 1 are called multiplicative inverses, also known as reciprocals.
- i. 6·\_\_=1
- 4·\_\_\_=1 ii.
- $\frac{2}{3} \cdot \_\_= 1$

iii.

- b. "Wow!" Donald said, "We can just flip the fraction over to find its multiplicative inverse." Why does this make sense? Explain why any fraction multiplied by the "flipped fraction" (reciprocal) must be equal to 1. Use the fractions below to show your thinking.
- i. 2/3
- ii. 4/5
- iii. 10/3

7-58 Malik and Cheryl were working on the division problem 5÷3/4. Malik said, "Since a fraction can mean division, doesn't that mean that I can write this?" He wrote:

$$5 \div \frac{3}{4} = \frac{5}{\frac{3}{4}}.$$

- Cheryl answered, "That's ugly, Malik. It's a super fraction."
- Malik responded, "Yeah, but then I can use a Giant One!"



Then he wrote

- a. Copy Malik's expression on your paper and simplify it.
- b. Why did Malik choose to use 4s inside his Giant One? What would have happened if he had chosen a different number? Explain your ideas.

7-59 Cheryl was thinking more about Malik's idea of using a Giant One to help divide and realized it could be used with two fractions. She used the problem 1/6÷3/4 to demonstrate her idea, doing the work shown below.

 $\frac{\frac{1}{6}}{\frac{3}{4}} \cdot \int - \int = \frac{1}{1}$ 

Cheryl said, "Can we use a Giant One like you did? This time, let's

choose a number to use in the Giant One that will make the denominator of our answer equal to 1."

- a. What number could Cheryl use in her Giant One? In other words, what number multiplied by 3/4 will give the answer 1? What is that number called?
- b. Copy and complete Cheryl's calculation. Cheryl called a Giant One made by two fractions a Super Giant One.
- c. Show how to write 4/5÷1/2 Cheryl's way and then solve it using a Super Giant One.

7-60 Simplify each of the following expressions using a Super Giant One like Cheryl did in problem 7-59.

a. 
$$\frac{2}{3} \div \frac{2}{5}$$
 b.  $\frac{5}{6} \div \frac{1}{12}$ 

c.  $\frac{3}{8} \div \frac{5}{6}$ 

7-61 Anna wants to find the **quotient** of 0.006÷0.25. (A quotient is the answer to a division problem.) However, Anna is not sure how to divide decimals. She decided to rewrite the numbers as fractions.

- a. Rewrite 0.006÷0.25 using fractions. Use what you know about dividing fractions to find an answer that is one fraction.
- b. "Hmm," said Anna, "Since the original problem was written with decimals, I should probably write my answer as a decimal." Convert your answer from part (a) to a decimal.
- c. Find the quotient 1.035÷0.015.

7-62 Elsha wants to divide 0.07÷0.004 and thinks she sees a shortcut. "Can I just divide 7÷4?", she wonders.

- a. What do you think? Will Elsha's shortcut work? Why or why not?
- b. Determine the answer to 0.07÷0.004, and show how you found your answer.

7-64 Without using a calculator, find the following quotients.

a.  $4\frac{1}{3} \div 1\frac{1}{6}$ b.  $8.06 \div 2.48$ c.  $3\frac{2}{5} \div 1\frac{3}{10}$ 

7-65 Find the multiplicative inverse of each of the following numbers. Refer to the Math Notes box in this lesson for help.

| a. 7/8 | b. $1\frac{2}{3}$ |
|--------|-------------------|
| c. 1.5 | d. 0.25           |

Math 6+ – Week of May 11th

**Connecting Addition & Subtraction** 



3-39 Put ten – tiles on your table (can draw 10 "-"symbols on paper). Find at least four different sequences of steps (adding or removing any number of + or – tiles in each step) to end up with tiles that represent –4. Represent each of these methods with an expression.

- a. Are any of your expressions or methods more efficient than others? Is it possible to combine movements or steps so that you can complete the task in only one step?
- b. How many different expressions can you create that accomplish this task in only one step?

3-40 Now start with five + tiles and find ways to end up with only two + tiles. Use your ideas from problem 3-39 above to find the two most efficient ways to do this with only one step. Describe how the two expressions accomplish the same task.

3-41 Rewrite the expression 7-(-2) as an addition expression that gives the same result. Justify your addition expression using the integer tiles.

#### CONNECTING ADDITION AND SUBTRACTION

In the next six examples, compare (a) to (b), (c) to (d), and (e) to (f). Notice that examples (a), (c), and (e) are subtraction problems and examples (b), (d), and (f) are addition problems. The answers to each pair of examples are the same. Also notice that the second integers in the pairs are opposites (that is, they are the same distance from zero on opposite sides of the number line) while the first integers in each pair are the same.

| a. | 2-(-6)  | +   | 2 - (-6) = 8 |
|----|---------|---|--------------|
| b. | 2+6     | + + + + + + + +   | 2+6=8        |
| c. | -3-(-4) |   | -3-(-4)=1    |
| d. | -3+4    | $\begin{pmatrix} +\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ +\\ +\\ +\\ +$   | -3 + 4 = 1   |
| e. | -4-(-3) |   | -4-(-3)=-1   |
| f. | -4+3    | $\begin{pmatrix} +\\ -\end{pmatrix} \begin{pmatrix} +\\ -\end{pmatrix} \begin{pmatrix} +\\ -\end{pmatrix} \begin{pmatrix} +\\ -\end{pmatrix} \end{pmatrix} -$ | -4 + 3 = -1  |

You can conclude that subtracting an integer is the same as adding its opposite. This fact is summarized below.

#### SUBTRACTION OF INTEGERS IN GENERAL

To find the difference of two integers, change the subtraction sign to an addition sign. Next change the sign of the integer you are subtracting, and then apply the rules for addition of integers.

For more information on the rules for subtracting integers, see the Math Notes box in Lesson 3.2.3 of the *Core Connections, Course* 2 text.

33

3-42 Do you think that every subtraction problem can be rewritten as an addition problem that gives the same result?

**Your Task:** Develop a convincing argument to answer this question. You may use examples from the list below or make up your own.

| 6 + (-2)                    | 6 - 2                                       |
|-----------------------------|---|
| $-\frac{3}{5}-\frac{3}{10}$ | $-\frac{3}{5} + \left(-\frac{3}{10}\right)$ |
| 0 - 5                       | 0+(-5)                                      |
| 7.85 - (-5)                 | 7.85 + 5                                    |
| -8 - (-12)                  | -8 + 12                                     |
| 0 - (-0.125)                | 0 + 0.125                                   |

3-43 When would rewriting subtraction problems into addition problems be useful? With your team, decide which of the following expressions you may want to rewrite and why. Be prepared to share your reasons with the class.

| a. | -100.86-(-3.86) | d4/9-3/9     |
|----|-----------------|--------------|
| b. | 21-(-7)         | e.0-1.12     |
| c. | -24-6           | f. 0-(-37 ¼) |

3-44 Represent the following problem in at least two ways. First, represent it as an expression containing only addition. Second, represent it as an expression containing addition and subtraction.

While traveling in France, Juno was entertaining himself by riding in an elevator in a very tall building. He started at the ground floor (which in France is considered the 0th floor) and went up 26 floors. Then he rode down 7 floors. Next, he went up another 3 floors and then down again another 16 floors. What floor did Juno end up on?

3-46 Find the value of each expression below. Change any subtraction problem to an equivalent addition problem. Draw a diagram with + and – tiles to justify your answer.

| a. | 5-7     | c5+7    |
|----|---------|---------|
| b. | -5+(-7) | d5-(-7) |

3-47 Rewrite each of the following expressions using only addition. Then simplify the expression.

| a. | 5(-2)-3         | с7+-3-(-5)       |
|----|-----------------|------------------|
| b. | 7.69-(-2.5)(-4) | d. (-4)(-25)-300 |

## Examples

Use the rule for subtracting integers to find each difference (that is, subtract).

| a. | 9 - (-12) becomes $9 + (+12) = 21$ | b. | -9 - (-12) becomes $-9 + (+12) = 3$ |
|----|------------------------------------|----|-------------------------------------|
| c. | -9 - 12 becomes $-9 + (-12) = -21$ | d. | 9 - 12 becomes $9 + (-12) = -3$     |

#### Problems

Use the rule for subtracting integers to find each difference.

| 1.  | 9 – (-3)         | 2.  | 9 – 3               | 3.  | -9 - 3               |
|-----|------------------|-----|---------------------|-----|----------------------|
| 4.  | -9 - (-3)        | 5.  | -14 - 15            | 6.  | -16 - (-15)          |
| 7.  | -40 - 62         | 8.  | -40 - (-62)         | 9.  | 40 - 62              |
| 10. | 40 - (-62)       | 11. | -5 - (-3) - 5 - 6   | 12. | -5 - 3 - (-5) - (-6) |
| 13. | 5 - 3 - (-5) - 6 | 14. | 5 - (-4) - 6 - (-7) | 15. | -125 - (-125) - 125  |
| 16. | 5 - (-6)         | 17. | 12 - 14             | 18. | 20 - 25              |
| 19. | -3 - 2           | 20. | -7 - 3              | 21. | -10 - 5              |
| 22. | -30 - 7          | 23. | -3 - (-3)           | 24. | -3-(-4)              |
| 25. | 10 - (-3)        | 26. | 5 - (-9)            | 27. | 27 – (–7)            |
| 28. | 15 - 32          | 29. | -58 - 37            | 30. | -79 - (-32)          |
| 31. | -62 - 81         | 32. | -106 - 242          | 33. | 47 – (–55)           |
| 34. | 257 - 349        | 35. | -1010 - (-1010)     |     |                      |
|     |                  |     |                     |     |                      |

## PUZZLE INVESTIGATOR PROBLEM (PIP) 6 - DESIGNING AN APARTMENT

Ms. Speedi wants to build her dream house and would like you to design it. According to local zoning laws, she is limited to a one-story house with a maximum area of 1,000 square feet. (This is the maximum area of the floor.) She also has some personal requirements for this house:

- There must be two bedrooms with a combined area of at least 250 square feet.
- There should be at least one bathroom near the bedrooms.
- The living room cannot be smaller than 200 square feet.
- The kitchen must be at least 220 square feet.
- The building costs are cheaper when the entire structure is rectangular. Therefore, make the overall shape of Ms. Speedi's house a rectangle.
  - a. Design a possible layout of Ms. Speedi's dream house. Make sure your design meets the zoning law (with a maximum area of 1,000 square feet) and Ms. Speedi's personal requirements.
  - b. On graph paper, draw a scaled blueprint of Ms. Speedi's house. Provide details that help others understand your design like the front door, windows, and interior doors. Add furniture if you like.
  - c. What are the benefits of your design over others? What are the drawbacks? What assumptions did you make for your design? Did you need to make any difficult decisions?

# **Dig This!**

# **Fossil Find**

Want to know what the world was like millions of years ago? Look to the rocks.



Getty Images Archaeopteryx One hundred and fifty million years ago, one of the very first birds appeared on Earth. How do we know? **Fossils.** Fossils are the hardened remains of plants or animals that died long ago. Scientists recently discovered a fossil of a 150-millionyear-old bird called *Archaeopteryx* (arkee- OP-ter-iks). It's not the first *Archaeopteryx* fossil to be found. However, the newly discovered fossil shows that *Archaeopteryx* had feet similar to those of the dinosaurs. This fossil gives scientists more evidence that dinosaurs were the ancient ancestors of modern birds.

Dead plants and animals usually break down and rot away, but sometimes their remains become fossils. Think about the *Archaeopteryx* that died millions of years ago. Its body may have settled to the bottom of a river or lake. Then layers of

sand covered the body. The layers created a shell around the skeleton that kept it from breaking down or being eaten by other animals.

Over millions of years, **minerals** in the water saturated the bones. Minerals are the solid materials that make up rocks. Eventually, minerals replaced all the chemicals in the bones. The bones had transformed into rocks, but they still looked like the bird's skeleton.

Today, scientists can study fossils to look back at the history of Earth. Scientists who study fossils are called **paleontologists.** They have discovered fossils of ancient flowers, enormous dinosaurs, and other creatures that have been extinct for millions of years. Knowing what plant and animal life was like helps scientists understand what the environment was like in the past.

Many people, not just scientists, discover fossils all the time. Who knows what ancient life-form could be discovered next!

# Rock On!

There are three main types of rock on Earth.

**Igneous rocks** form when the melted rock inside Earth cools and hardens. These rocks have a uniform texture. They are made up of grains that are packed closely together. Igneous rocks can be smooth and shiny or filled with a lot of air bubbles.

# **ReadWorks**°

**Sedimentary rocks** develop from **sediment.** Sediment is made up of tiny pieces of sand that are worn away from mountains and other rocks. Those pieces settle at the bottom of rivers, lakes, and oceans. Over time, sediment builds up. Sedimentary rocks sometimes contain fossils.

**Metamorphic rocks** are rocks that have changed. That means they started out as igneous or sedimentary rocks. Then heat and pressure from deep underground transformed them into a different kind of rock.

# **The Active Earth**

Earth may seem solid and motionless, but it's actually moving and changing all the time-sometimes slowly and sometimes with a bang. Earthquakes shake, volcanoes blast liquid rock, and weather wears away rock and land.

**Faults** are cracks in Earth's upper layer, or **crust.** They form when two **plates**, or pieces of the crust, slide against each other. Earthquakes usually happen near faults.

Volcanoes erupt when **magma** blasts through "hot spots" in Earth's crust. Magma is super hot liquid rock from deep within Earth. When magma reaches the surface, it is called **lava**. Volcanic hot spots are also found on the seafloor.

A couple of years ago, Hurricane Katrina slammed into the Gulf Coast of the United States. The hurricane caused **erosion**, the stripping away of land and soil. Over time, all rocks and land surfaces are worn down by flowing water or weather.

# Paleontology: The Big Dig

by American Museum of Natural History This text is provided courtesy of OLogy, the American Museum of Natural History's website for kids.



Illustration Credit: AMNH

## Fossils Tell Stories about Earth's History

Paleontology is packed with mysteries about living things such as plants and animals that lived thousands, millions, and billions of years before the first modern humans. To solve these mysteries, paleontologists use fossils.

Fossils are the remains or traces of ancient life that are usually buried in rocks. Examples include bones, teeth, shells, leaf impressions, nests, and footprints. This evidence reveals what our planet was like long ago. Fossils also show how animals changed over time and how they are related to one another.

# Fossils Can't Tell Us Everything

While fossils reveal what ancient living things looked like, they keep us guessing about their color, sounds, and most of their behavior.

## **Fossils Are Really Rare**

Most ancient living things never became fossils. When they died, scavengers ate them, they decayed, or they were worn away by wind and water until they disappeared. Some were destroyed by Earth's heat and pressure. Luckily for us, some living things were preserved as fossils.

# The Fossil Record Is like a Big Jigsaw Puzzle, with Most of the Pieces Missing

Most of the fossils of living things will never be found. They may be buried too deep, or they may be in the parts of the world where no one is digging. Many species probably left no fossils at all. Still, plenty of fossils have been found, and new ones are being discovered all the time. Each year, paleontologists continue to piece together the stories of the past.

#### World Road Trip

| Benchmark<br>Standard | Geography 1a: Students will demonstrate development of mental maps of Delaware and of the United States which include the relative location and characteristics of major physical features, political divisions, and human settlements. |
|-----------------------|---|
| Grade Band            | 6-8   |
| Vocabulary            | Landform; climate; cultural activity; itinerary   |

Original document by Red Clay Consolidated School District ~Modified and added to by CSD for use at home~

## **ACTIVITY 1**

Road Trip!

Pretend that you are taking a trip across the world. This trip has several stops or locations. Pages 2-5 have pictures from each city that you are going to visit. Imagine two different activities that you would like to do at each location. Describe the activities for each location on a separate sheet of paper. For example, you can see that London, England has a river. Maybe you would like to take a boat trip down the river.

### **ACTIVITY 2**

On page 6, there is an unlabeled map of the world. Use the Mercator map of the world on page 7 to label the 12 places that you are going to visit. Put a dot " $\bullet$ " at the location of each city and number the dot with the city's corresponding number in the chart below. These numbers are the "site #" for the chart in Activity 3.

| 1. | London, England  | 4. Bhengazi, Libya         | 7. Kolkata, India  | 10. Mexico City, Mexico |
|----|------------------|----------------------------|--------------------|-------------------------|
| 2. | Paris, France    | 5. Cape Town, South Africa | 8. Shanghai, China | 11. Sao Paulo, Brazil   |
| 3. | Istanbul, Turkey | 6. Addis Ababa, Ethiopia   | 9. Tokyo, Japan    | 12. Your Home, Delaware |

## **ACTIVITY 3**

Every trip needs a plan. A trip plan is called an itinerary. Use your map and the list of locations to record the order in which you will visit your 12 locations. Begin and end with your home in Delaware.

| Site<br># | Location               | <ul> <li>Identify a landform, climate or cultural activity you will come in contact with at each location.</li> <li>(Look at the pictures, or maybe you know of one) (Names are not given, so simply describe it)</li> </ul> | Distance     |
|-----------|------------------------|--|--------------|
| 12        | A) My home in Delaware |  | х            |
|           | В)                     |  | From A to B: |
|           | C)                     |  | From B to C: |
|           | D)                     |  | From C to D: |
|           | E)                     |  | From D to E: |
|           | F)                     |  | From E to F: |
|           | G)                     |  | From F to G: |
|           | Н)                     |  | From G to H: |
|           | 1)                     |  | From H to I: |
|           | ))<br>(I               |  | From I to J: |
|           | К)                     |  | From J to K: |
|           | L)                     |  | From K to L: |
|           | M)                     |  | From L to M: |

#### **ACTIVITY 4**

Using the map's scale, calculate the distance you will travel between each stop – Complete in the "Distance" column on the chart. How far will you have gone when you have completed the entire trip?

#### **ACTIVITY 5**

Look at the pictures again. Compare the cities. Which cities are similar? Place cities in groups of similarities. Use your map, and try to determine why each group of cities are similar.



## LONDON, ENGLAND



## PARIS, FRANCE









ISTANBUL, TURKEY





## BHENGAZI, LIBYA







CAPE TOWN, SOUTH AFRICA











SHANGHAI, CHINA









## MEXICO CITY, MEXICO









SAO PAULO, BRAZIL



#### Delaware





