Lewis County Middle School
8th Grade NTI Day 28

Contents:

- **Language Arts**
- **Math**
- **Science**
- **Social Studies**

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Day 28: Complete ONLY ONE of the four prompts. You should complete the same number each day. (Ex: Always complete #4 every day from 21-30)

1. NTI Daily Reading Log

Directions: Choose a book or some articles and spend at least 20 minutes a day reading. After you read, record the date, name of the book, the time you spent reading, and the number of pages you read in the reading log for that day. Then, write a summary of a few sentences about what you read. Remember the summary practice you completed in the previous week to help you capture key details in your log.

Day 28

Date:	Name of Book:	Time Spent Reading:	Number of Pages Read:

Day 28 Summary: (1-2 sentences about what you read)

_____

_____

_____

_____

2. Journaling Directions and Rubric

Journaling is a great way to reflect on things that happen during your day, get to know yourself better, reduce stress, clarify your thoughts and feelings, and (of course) become a stronger writer.

Reminder: This journal will remain confidential. That is, it will stay between you and your teacher unless you write something that shows that you want to hurt yourself or others or you write something that shows someone wants to hurt you. (Everything must be in accordance with applicable state and federal law regarding confidentiality)

Directions: Each day, complete a 100-200 word writing in a physical or online journal (like a Google Doc). You can either respond to the daily prompts or simply record important events in your life, consider current events, or make a gratitude/happiness record. You might consider how a journal record of your perspective during current events might be interesting to study in the future. You can write more, but keep in mind that your goal is 100-200 words.

Turn in your journal entries weekly on Google Classroom. That is, turn in days 21-25 together and days 26-30 together.

Day 28: Imagine inventing a new holiday or celebration. What would it be called? What would it celebrate? What would people do to commemorate that day?

3. i-Ready Reading Directions and Rubric

Complete the three lessons assigned to you on i-Ready Reading. Aim to work 20-30 minutes per day. Log your i-Ready work time in the chart below and the score you get on quizzes. Turn in a copy of this log each week. That is, turn in days 21-25 on Google Classroom and days 26-30 separately on Google Classroom.

Day 28: Analyzing Word Choice: Connotation

Date:	Lesson Title:	Time spent working:
Lesson Complete? Quiz Score:	In one complete sentence, what is something you learned from this lesson today?	

4. Multimedia Prompts Directions and Rubric

Directions: For each day, create a thoughtful image that meets the requirements of each prompt. Feel free to be creative! Fill the page with color/drawings. Put effort into your assignment and take pride in each day's work. You can take pictures of these images and submit them on Google Classroom, via email, or on paper.

Day 28: Define personification, hyperbole, and onomatopoeia on a piece of paper. Create an example of each and illustrate each. Be creative! Fill the page with color/doodles! **Ex:** "BOOM!" - Draw a firework exploding

Are YOU Ready?

Complete these exercises to review skills you will need for this module.

NTI Math Day 28 this page only

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Personal Math Trainer

Online Assessment and Intervention

Evaluate Expressions

EXAMPLE Evaluate $4x + 3$ for $x = 5$.

$4x + 3 = 4(5) + 3$ Substitute the given value for x.

$= 20 + 3$ Multiply.

$= 23$ Add.

Evaluate each expression for the given value of x.

1. $6x - 5$ for $x = 4$ _____

2. $-2x + 7$ for $x = 2$ _____

3. $5x - 6$ for $x = 3$ _____

4. $0.5x + 8.4$ for $x = -1$ _____

5. $\frac{3}{4}x - 9$ for $x = -20$ _____

6. $1.4x + 3.5$ for $x = -4$ _____

Solve Two-Step Equations

EXAMPLE $5x + 3 = -7$

$-3 \quad -3$ Subtract 3 from both sides.

$5x = -10$

$\frac{5x}{5} = \frac{-10}{5}$ Divide both sides by 5.

$x = -2$

Solve for x.

7. $3x + 4 = 10$ _____

8. $5x - 11 = 34$ _____

9. $-2x + 5 = -9$ _____

10. $8x + 13 = -11$ _____

11. $4x - 7 = -27$ _____

12. $\frac{1}{2}x + 16 = 39$ _____

13. $\frac{2}{3}x - 16 = 12$ _____

14. $0.5x - 1.5 = -6.5$ _____

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Are YOU Ready? (cont'd)

Complete these exercises to review skills you will need for this module.

Evaluate Expressions

15. Show why the expression $-1.3x - 6.5$ is neither positive nor negative when $x = -5$.

16. Evaluate the expression $\frac{1}{2}x + 6.8$ for $x = -2, 0, 2$, and 4. Describe a pattern in the results.

Solve Two-Step Equations

17. Describe a plan using inverse operations to solve $\frac{1}{2}x + 8 = 42$. Then find the solution.

18. Caroline solved the equation below as shown. What was Caroline's error?

$$0.5x - 1.2 = 8$$
$$0.5x = 6.8$$
$$x = 13.6$$

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Day 28 Science Name Liam

PALEONTOLOGY CONNECTION

Mass Extinctions: Devastation and Opportunity

Something drastic happened about 65 million years ago—the fossil evidence is clear. At the end of the Cretaceous Period, almost all of Earth's large vertebrates (including the dinosaurs), and most of the oceans' plankton became extinct. In fact, 60 to 70 percent of *all* plant and animal species disappeared.

So, what on Earth happened?

It's impossible to say for sure what caused this mass extinction, but we know that two dramatic events occurred around the time of the extinction. There is strong evidence that a huge asteroid crashed into Earth just off the coast of Mexico's Yucatan peninsula (top, right) 65 million years ago, creating an egg-shaped crater 150 kilometers in diameter (below, right).

Scientists estimate that to make a crater that big, the asteroid must have been at least 10 kilometers wide and hurtling toward Earth at the astonishing speed of 30 kilometers per second (that's three times as fast as a jet airliner!). The impact of such a huge crash would cause tsunamis and earthquakes and send a huge cloud of dust into the atmosphere, blocking most of the sun's rays for months.

In Western India we find evidence that enormous volcanic eruptions also occurred around 65 million years ago. At the plate boundary between India and Africa, there are huge lava beds called the Deccan traps that still cover 500,000 square kilometers. That's about the size of the states of Washington and Oregon combined! Geologists estimate that the total volume of lava from the eruptions was more than 500,000 cubic kilometers. A volcanic eruption of this size would have spewed enormous amounts of ash, carbon dioxide, and water vapor into the atmosphere. This event may have caused temporary cooling but then significant global warming and major changes in the ocean's acidity.

We don't actually know exactly how much dust and ash spewed into the air from either of these events, and we can't say exactly how much global temperatures changed or how acidic the ocean became for how long. We can't prove that either event triggered the extinction of a specific plant or animal species. But it is hard to imagine that events of this size wouldn't make an impact on Earth's plants and animals.

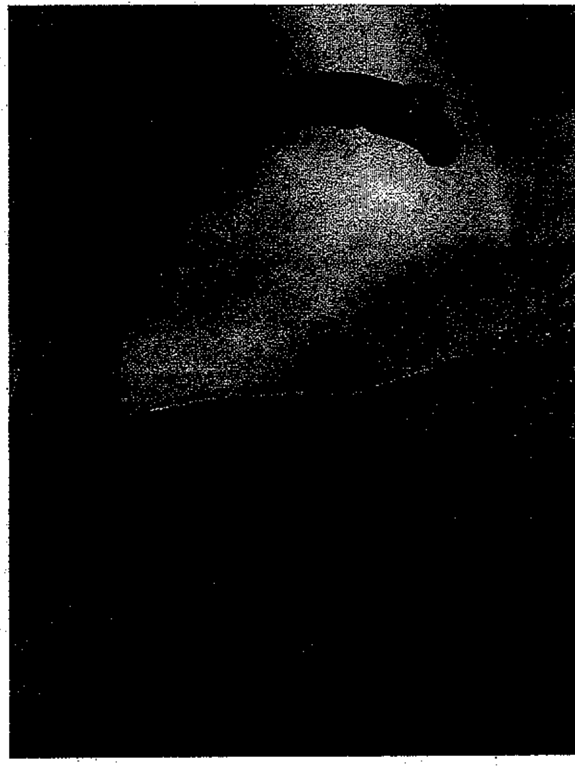
Image courtesy NASA/JPL-Caltech

Evidence from the fossil record

Looking at the fossil record provides more clues about what may have happened around 65 million years ago. The fossil record shows that around the globe, photosynthetic organisms suffered huge losses. Especially hard-hit were the oceans, where many types of plankton died out, and North America, which experienced the loss of

the vast majority of plant species. These losses suggest that something in the atmosphere did, indeed, block out the sun's rays for a period of time.

Animals whose food chains depended on photosynthetic plants were very hard-hit. These include both the plant-eating dinosaurs and the carnivorous dinosaurs that ate plant-eaters. In the oceans, plankton-feeders died out as did some of the large marine predators like mososaurs (giant lizards) and plesiosaurs (giant reptiles). Animals that built calcium-carbonate shells (like primitive sea urchins, clams, and cocolithopores) suffered heavy losses, suggesting a change in the ocean's acidity. Coral reefs, which are especially sensitive to temperature changes, were devastated.



The fossil record also provides information about what *did* survive. Animals whose food chains were based on detritus (dead or decaying plants and animals) fared much better. Insects, lizards, turtles, and snakes that could burrow underground had a much higher survival rate. Amazingly, birds did not suffer tremendous losses. Ocean-floor dwellers were much less affected than those living closer to the surface. This is probably because bottom-dwellers tend to feed on decaying matter, and tend to be less affected by changes in water temperature.

New Opportunities

In a stable ecosystem, food webs are predictable. It is difficult for a new species to take another's place in a food web. Evolution and change happen, but at a slow, gradual rate. Mass extinctions disrupt ecosystems, and entire food webs collapse. While this is devastating for many species, it provides a tremendous opportunity for the few that survive.

No land animal larger than a cat survived the mass extinction 65 million years ago. However, small mammals fared amazingly well. Afterward, these primitive mammals demonstrated what evolutionary biologists call *adaptive radiation*. A few species evolved into many newer species to fill the roles that the dinosaurs and other extinct species left behind.

Earth's biodiversity (the number of different plants and animals species) eventually returned to pre-extinction levels. What was a catastrophe for the dinosaurs became an opportunity for mammals. New forms of life emerged from the ruins. The fossil record suggests that there may have been five mass extinctions in Earth's history. Each time, biodiversity eventually returned, but with new dominant plant and animal species. As a result, scientists hypothesize that mass extinctions play an important role in evolution.

Questions:

1. Research: There are many theories about what caused the mass extinction at the end of the Cretaceous period. Use the Internet or a library to find out about another possible cause. Write a paragraph describing the theory.
2. Why do you think burrowing animals may have had a survival advantage over other land animals?
3. Explain the term adaptive radiation in your own words.

Name_____ Team_____

Science NTI Day 28- Mass Extinctions: Devastation and Opportunity

1. The Cretaceous-Tertiary extinction killed off _____ % of all plant and animal species.

a) 1-10

b) 20-30

c) 40-50

d) 60-70

2. What is the leading theory as to the cause of this mass extinction?

a) Huge asteroid

b) Reduction is Earth's water

c) Radiation poisoning

d) None of the above

3. In Western India there is evidence of massive volcanic eruptions that occurred around 65 million years ago. There are huge lava beds called the Deccan traps that cover _____ square kilometers.

a) 100.000

b) 300,000

c) 500,000

d) None of the above

4. No land animal larger than a _____ survived the mass extinction 65 mya, but small mammals fared amazingly well.

a) Bacteria

b) Mouse

c) Cat

d) None of the above

Day 28: Maynard/Robinette

Advances in transportation helped build America's industrial economy

The ability to transport goods and human beings efficiently is fundamental to economic life in modern societies. A brief look at the early United States illustrates this principle dramatically. In the first half of the 19th century, Americans built a strong transportation network. These investments in infrastructure were often described as "internal improvements" in the political debate of the time. Improving technology and impressive feats of engineering rapidly transformed the North American continent. Overland roads, canals and railways greatly expanded economic opportunities.

During the colonial and revolutionary periods, most of the nonindigenous population of North America lived near the Atlantic coast. Eighteenth-century America depended chiefly on water transportation to link small-scale farming and artisan industry with transatlantic trade. Farmers living near the Hudson River or other river systems could float their crops downstream to the port cities. Upstream travel was slow and difficult. Post roads between the colonies had been built by the mid-1700s, but were unsuitable for commercial transport. As a rule, the movement of agricultural produce and other goods was costly. It also took a great deal of time.

Paving The Way For Regional Commerce

In 1794, a new road opened between Philadelphia and Lancaster, Pennsylvania. It was the country's first toll road, built by a private corporation chartered by the state. Soon other groups of merchants were incorporating to pave more turnpikes, especially in the northeast. By the early 1820s, thousands of kilometers of graded paths crisscrossed the region. The toll roads usually failed to turn a profit for their investors, but they provided a major boost to regional commerce. The federal government paid for one major highway during this era. It extended westward from Cumberland, Maryland, at the headwaters of the Potomac River. The Army Corps of Engineers began building the Cumberland Road in 1811. By 1818, it had crossed the Appalachian Mountains and reached Wheeling, Virginia, permitting overland travel between the Potomac and Ohio rivers.

Waterways Connect Rivers And Lakes

Canals gave the system waterways still greater reach. The largest and most important was the Erie Canal. It was approved by the New York legislature in 1817 and completed eight years later. It extended from Buffalo to Albany at a width of 12.1 meters (40 feet) on the top and a depth of 1.2 meters (4 feet). This mighty engineering feat created an artificial waterway connecting the Great Lakes to the Hudson River. The Hudson, in turn, emptied into the Atlantic Ocean. The Erie Canal drastically reduced both the travel time and the cost of shipping commodities such as grain and lumber from the Midwest to the Eastern seaboard. It led to an immediate and dramatic increase in the shipment of such goods, and the state's investment in the project paid off handsomely. By the 1840s, New York City had become the nation's leading commercial port. It was also well established as the country's financial and trade capital. Other cities along the canal route, such as Rochester and Syracuse, also prospered.

Other state governments hoped to copy New York's success. It led to a furious round of publicly financed canal projects. By 1840, the United States had dug more than 4,828 kilometers (3,000 miles) of canals. Both Ohio and Indiana built their own canal systems connecting the Ohio River to Lake Erie. The Illinois & Michigan Canal, completed in 1848, established a water link between the Mississippi River Valley and the Great Lakes. It spurred the city of Chicago, Illinois, to become the great transport hub of the Midwest.

Trains Transport Goods Across The Country

The steam-powered locomotive ultimately had the most far-reaching impact. Trains were a heavy-duty, fast, year-round transport solution. In time, they became the preferred option for commercial shipping. The earliest U.S. railroads covered only short distances, providing portage between waterways. In 1827, a group of Baltimore, Maryland, businessmen formed a corporation to build the first major railway between their city and the Ohio River. Many more private railway enterprises followed in the decades prior to the Civil War. Between 1840 and 1860, the nation saw a tenfold increase in the amount of track laid, from 4,828 to 48,280 kilometers (3,000 to 30,000 miles). The majority of this development was in the northern states. The first transcontinental line was established in 1869. Once its infrastructure was completed, the railways lowered the cost of transporting many kinds of goods. Railroads themselves became a major industry.

Productivity Rises

These advances in travel and transport helped drive settlement in the western regions of North America. They were also integral to the nation's industrialization. The development of steamboats and the canal system made it possible for farmers to settle in the fertile lands of the Midwest and Southwest. Constantly improving transport systems gave them an efficient and relatively inexpensive means to deliver their goods to market. The resulting growth in productivity was staggering. Between 1829 and 1841, for example, the amount of wheat delivered along the Erie Canal rose from 3,640 bushels to 1 million bushels. Busy transport links stimulated the growth of cities, especially New York and Chicago, but also strategically located towns such as Buffalo, New York; Pittsburgh, Pennsylvania; and St. Louis, Missouri. The transportation system helped to build an industrial economy on a national scale.

Answer the following and return to either Mr. Maynard or Mr. Robinette:

Day 28

1. **Which of the following MOST influenced the construction of the first toll roads in the northeast part of America?**
   a. greater availability of federal funds to build roads
   b. merchants desiring better roads
   c. lower costs to transport goods on roads
   d. decreased federal funding for building roads

2. **How did the early railroads affect America's transportation system?**
   a. They allowed for the first commercial shipping in the country.
   b. They ended the use of canals for the shipment of goods.
   c. They allowed for the shipment of goods to be less costly.
   d. They helped the government take control of commercial shipping.

3. **Read the selection from the section "Productivity Rises."**

The resulting growth in productivity was staggering. Between 1829 and 1841, for example, the amount of wheat delivered along the Erie Canal rose from 3,640 bushels to 1 million bushels.

How does using the word "staggering" affect the tone of the selection above?

a. It makes the tone of the selection more factual.
b. It adds a dramatic tone to the selection.
c. It adds a defiant tone to the selection.
d. It makes the tone of the selection more mysterious.

4. **Read the selections from the introduction of the article.**

The ability to transport goods and human beings efficiently is fundamental to economic life in modern societies. Improving technology and impressive feats of engineering rapidly transformed the North American continent.

Which two words would BEST replace "fundamental" and "impressive" in the selections above?

a. Basic; new
b. Key; miraculous
c. Central; wondrous
d. Essential; strange