

8th GRADE

NTI Packets: 26-30

MODIFIED

8th Maroon & Gold

April 20th-24th

Student Name: _____

Teachers:

Mrs. Koch & Mrs. Lemons: Reading

Ms. Herrington & Mr. Persinger: Math

Mr. Case & Mr. McEwan: Social Studies

Ms. Hanrahan & Ms. Klausman: Science

Mrs. Thomas & Mrs. Doyle: Resource

Attached you will find work for each day 26-30. You will have a reading, math, social studies, science, and explore class assignment for EACH DAY! Therefore, take it day by day! Everything is broken down for you by subject and by days. So, read each subject's cover sheet to know exactly what assignment you need to do EACH NEW DAY. If you are confused or need help, please email any of your teachers, call the school (859-234-7123) or text/call Mrs. Lemons (859-298-4048) or Mr. Case (859-771-3945).

Have a great week, we miss you very much!

Reading

Call us if you
need assistance!

Have a great day! ^{Mr. Thomas & Mrs.}
^{Doyle}



*

* Name

ELA : Reading NTI Packet days 26-30
NONFICTION

(Reading)
* Name

DAY 26	DAY 27	DAY 28	DAY 29	DAY 30
<p>ASSIGNMENT: Watch one televised daily news program either from local (Lexington-based) or national news such as CNN or FOX.</p> <p>While watching complete the attached sheet labeled " Daily News Connection".</p> <p>Alternate assignment: Read the article attached. If you choose to read the article you will answer the questions that go with the reading for today only. ** Only Days 26 and 29 offer an alternate assignment!</p>	<p>Assignment: Review text structures and complete the activities attached.</p> <p><u>5 types of text structures:</u> Description -describes a topic Cause and Effect - details an event/cause and tells the effects/issues Problem and solution- tells a problem and how to solve it or how it was solved Sequence of events -timeline Compare and contrast- similarities and differences</p>	<p>Assignment: Read the article from Scope Magazine and complete the attached assignments on text features and sequence of events.</p> <p>Text features help you find information in a text. Common types of text features: Maps, Timelines, Graphs, Charts, Bold Words, Italics, Key, Captions, Photos, Dictionary, Table of Contents, Titles, Subtitles, etc.</p>	<p>ASSIGNMENT: Watch one televised daily news program either from local (Lexington-based) or national news such as CNN or FOX.</p> <p>While watching complete the attached sheet labeled " Daily News Connection".</p> <p>Alternate assignment: Read the article attached. If you choose to read the article you will answer the questions that go with the reading for today only.</p>	<p>Assignment: Description Journaling</p> <p>Describe your experience at Harrison County Middle School/</p> <p>8th grade students : reflect on your 3 years at HCMS. Describe what you have loved, what you will miss, and what you look forward to in high school. Also, describe your favorite HCMS memory</p> <p>6th and 7th grade students: describe what you enjoy about HCMS and explain what future 6th grade students need to do in order to succeed at HCMS.</p>



Play it safe: What kids should know about the coronavirus outbreak

By Jason Bittel, Washington Post on 03.25.20

Word Count 977

Level MAX



Image 1. Children draw a rainbow and the slogan of hope being shared in Italy, "Andrà tutto bene" (Everything will be alright), during quarantine measures amid the novel coronavirus COVID-19 pandemic on March 13, 2020, in Milan, Italy. Photo: Pietro D'Aprano/Getty Images

With schools closing across the nation in response to coronavirus concerns, many students may be jumping for joy. Others are worried, scared or confused. But as the American essayist Ralph Waldo Emerson wrote, "Knowledge is the antidote to fear."

With that in mind, let's answer a few common questions about coronavirus. Let's start with its name.

Everybody keeps talking about "coronavirus" and "covid-19." Which is it?

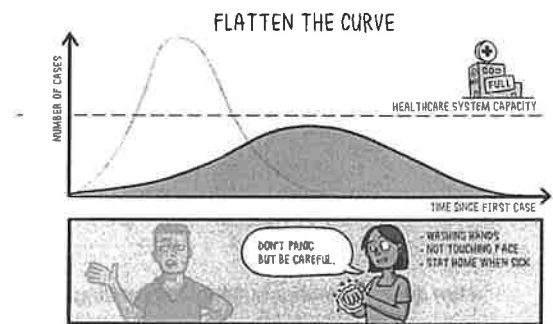
Technically, either of these terms could be correct, depending on how they are used. The actual virus that appeared in China at the end of 2019 and has since hopped across the world is called "SARS-CoV-2." This is short for "Severe Acute Respiratory Syndrome" and "coronavirus." Once the virus gets into a person, it can cause an illness known as "Coronavirus Disease 2019," or covid-19. Also, you might hear it referred to as a "novel coronavirus." This means that scientists already

First, washing your hands after going to the restroom or before handling food is a great practice in general. It can help you avoid catching all sorts of nasty illnesses. But hand-washing has become even more important as this coronavirus spreads. This is the easiest way to ensure you're washing your hands well enough: Use warm or cold water and soap and keep scrubbing every inch of your fingers, thumbs, palms and wrists. Scrub for the time it takes to sing "Happy Birthday to You" twice. The Centers for Disease Control and Prevention (CDC) has more tips at [cdc.gov/handwashing](https://www.cdc.gov/handwashing). (Also, remember to cover your cough with a tissue or at least your inner elbow.)

What is "social distancing"?

Your parents might not want you to play basketball with your neighbors. Or they might not want you to go to a party that was scheduled for next weekend. This is because of something called "social distancing." And while it seems like a bummer, experts say it's another way everyone can work together to limit the impact of this coronavirus.

The idea behind social distancing is simple. The fewer people we have close contact with each day, the fewer opportunities the virus has to spread. (The CDC says "close" is six feet or less.) And that means not only will you and your family have better chances of avoiding covid-19, but so will your grandparents, your Scout group and the person you sit next to in a bus. Any of these people might be at a higher risk to have a more serious reaction from the virus.



How long will this last?

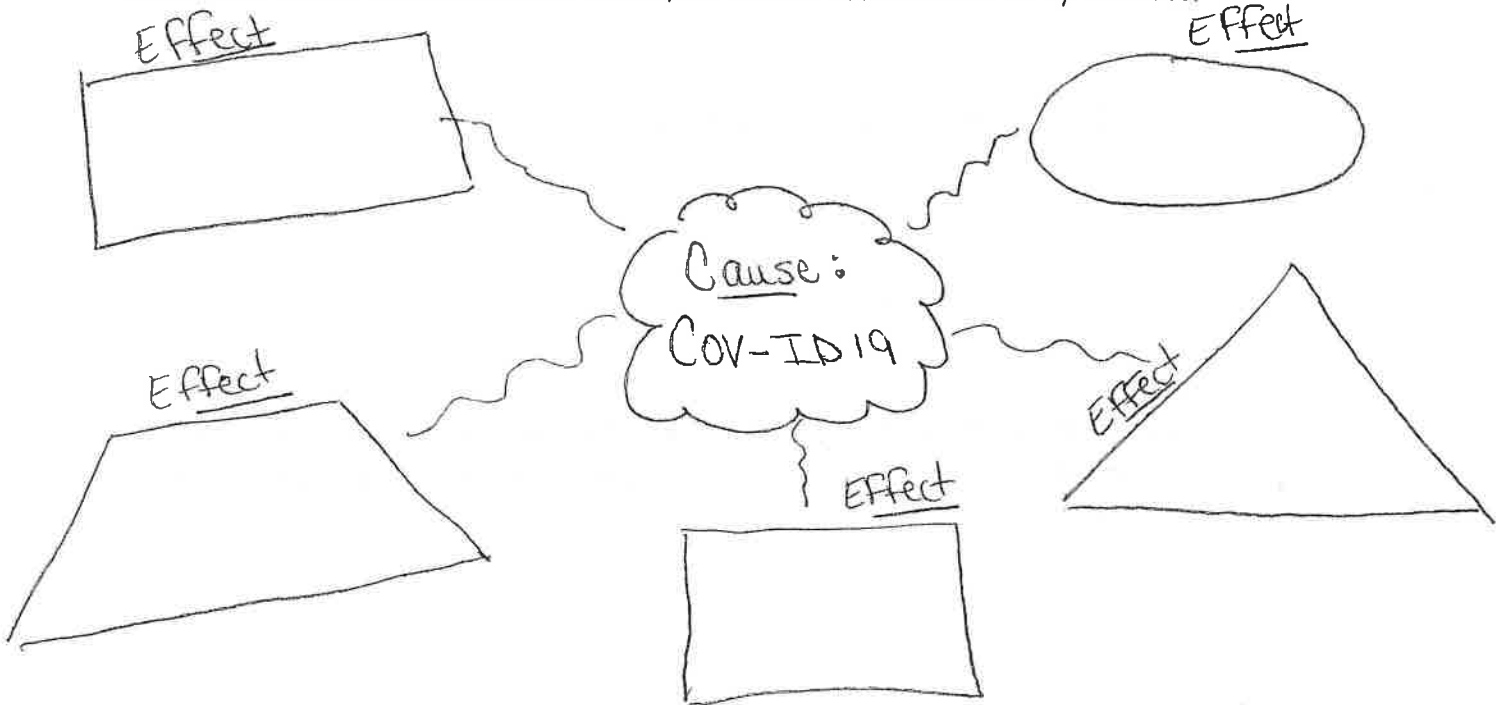
Unfortunately, no one can answer that question yet. The CDC recommends that large events be canceled or postponed for at least the next eight weeks. Your parents, teachers and KidsPost will be coming up with creative ways to pass the time.

Text Structures

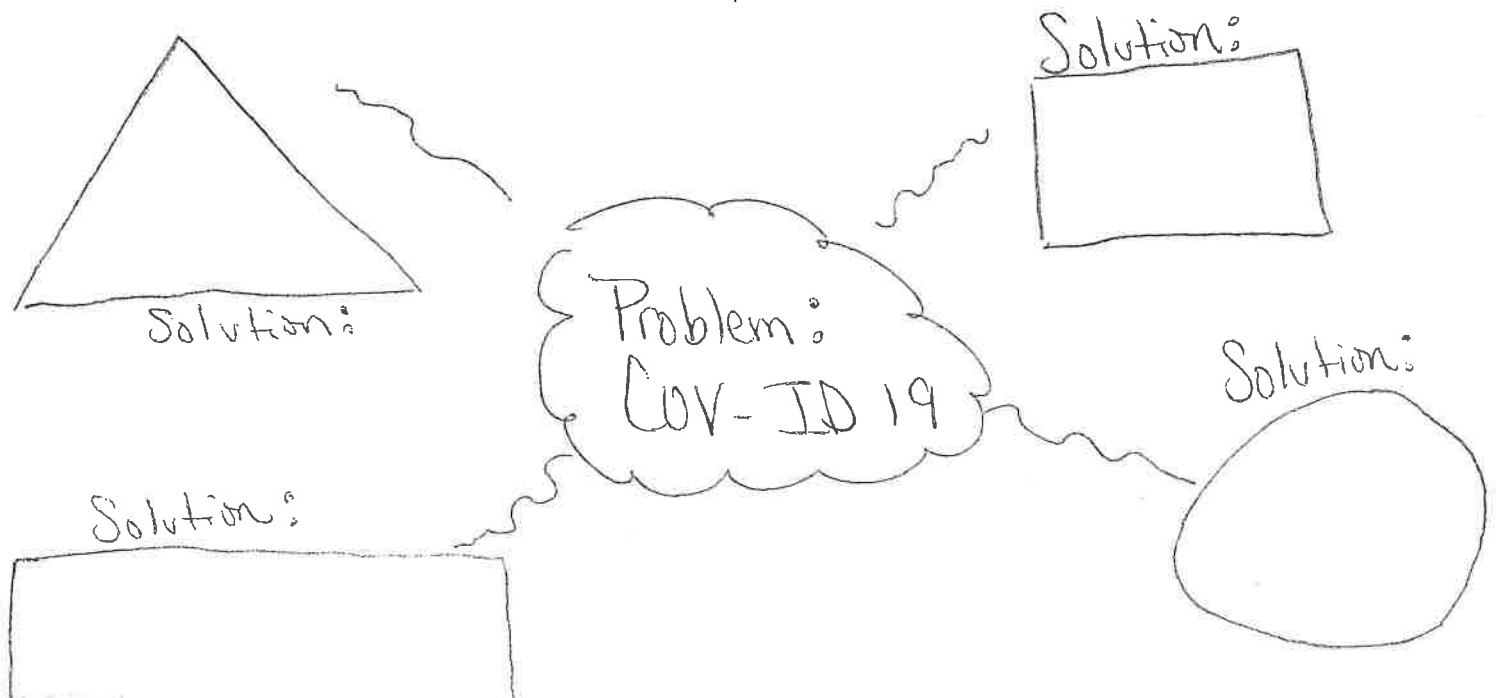
Day 27

Today we will focus on Cause and Effect and Problem and Solution text structures focusing on COV-ID 19. Using your knowledge and understanding of the virus complete the following activities. Another text structure that can be used is Question and Answer. While completing today's lesson, you can ask the family members in your home or call others to help you complete these activities by asking questions and using their answers to help.

Cause and Effect: The cause is COV-ID 19, list several effects created by the virus.



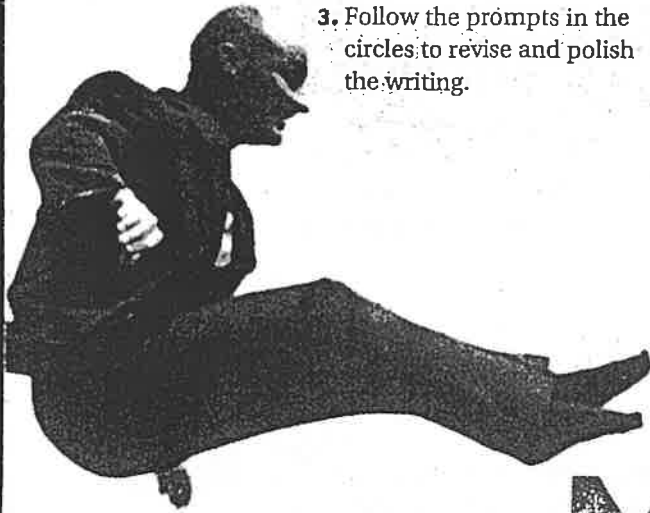
Problem and Solution: The problem is COV-ID 19, list ways that local, state, and national leaders have tried to solve the problem.



We love this story, but we need your help to edit it.

Directions:

1. Read the article.
2. Note the words in bold.
3. Follow the prompts in the circles to revise and polish the writing.



The History of the

TRAMPOLINE

It all began with a whimsical idea: **Bouncing** could be a lot of fun.

Trampoline inventor George Nissen (above) rented a kangaroo to bounce with him in New York City's Central Park. Today this would be considered cruel, but back then, animals were often used for entertainment.

Daily News Connection

Day 29

Name:

Directions: While watching the news program, answer the following questions. You must watch the programming for at least 35 minutes. *Read these questions prior to viewing the program!!*

8. Day and time of the news program you viewed:
9. What channel or internet site was this program on?
10. What events or situations have changed since you watched the news on Day 26?

Focus on one story or segment of the news program. Then answer the following questions based on that part of the news.

11. **What** is happening and **What** do you think about it?
12. **Where** and **when** does this event happen?
13. **How** do you feel about the news you watched today? And **Why**?

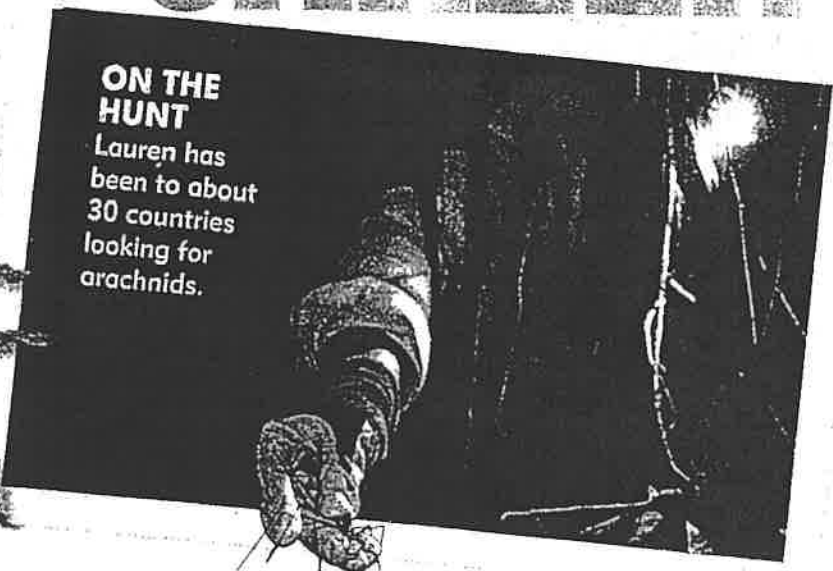
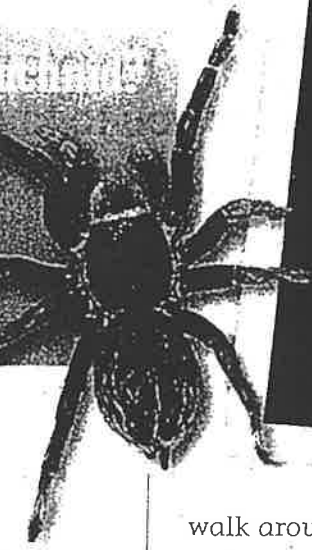
Day 29: Alternate Assignment Continued

ONLINE EXTRA Go scorpion-hunting with Lauren in our video.

CAREER



- What is an arachnid?**
- No antennae
 - No backbone
 - Two body sections
 - Eight legs
 - No wings



ON THE HUNT
 Lauren has been to about 30 countries looking for arachnids.

What traits does a good biologist need?

You need to be curious and observant—always noticing what’s around you. And you have to be fascinated by nature!

A lot of people are afraid of arachnids. Why is that?

Well, the way they move is very alien to us. We’re not used to seeing things

walk around on the ceiling with eight legs! Plus, there are *some* arachnids that are venomous—that means they have a poisonous bite or sting. So people think *all* arachnids can hurt them.

What do you say to those people?

Fewer than 1 percent of all arachnids are dangerous

to humans. Most spiders can’t even bite people—their fangs are too small to get through human skin.

Have you ever been bitten or stung?

I was once stung by a scorpion. It felt like getting pricked by a thumbtack. I was totally fine! •



Mini Skills Workout

WHAT TO DO: Write your answers on the lines below.



1. How arachnids move is *alien* to us. What’s another word Lauren could have used? Write it here.

2. What are three traits a biologist needs?

3. Find a sentence where Lauren explains what we can learn from arachnids. Write it here.

Math

Call, text, facetime
or zoom if you need
assistance!

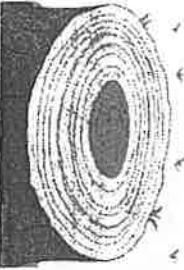
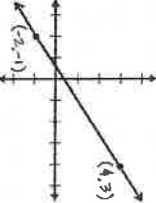


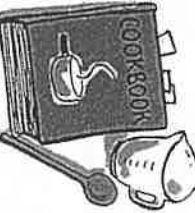
We miss you and have a
great day!

Ms Thomas
Ms Doyle

NTI Days 26-30 : 8th grade Math Modified Menu (Choice Board)

Choose **five** of these assignments to count for assignments Monday-Friday

Each choice has a worksheet to go with it to give you a spot to record work on.

<p>Choice 1: Find the age of a tree</p> 	<p>Choice 2: MENU Math: Using <i>On the Go Burgers</i> Use the <i>On the Go Burgers</i> drive-thru menu to solve each word problem.</p>	<p>Choice 3: Slope: George's Earnings</p> 
<p>Choice 4 Using <i>On the Go Burgers</i> menu complete DRIVE -THRU OPEN worksheet</p>	<p>Choice 5 Two Step Equation #5</p>	<p>Choice 6 Rate of change (slope) tables and finding slope on a graph https://www.youtube.com/watch?v=vFXXStHpfAQ for tables https://www.youtube.com/watch?v=MYCH7gswl4k for graph</p>
<p>Choice 7 Earth Day is April 22nd.</p>  <p>Water usage activity</p>	<p>Choice 8: Earth Day activity</p>  <p>Solar water</p>	<p>Choice 9: Recipe .</p> 

Choice 1:



Finding the age of a tree:

To **determine** the **age** of a **tree**, first find its diameter by measuring the circumference of the trunk in inches and then **dividing** that number by pi (use 3.14). Once you have the **tree's** diameter, look up the growth factor for the **type** of **tree** you're measuring, which is how much width it gains annually.

Task:

Students also use tape measures to measure the circumference, hence age, of trees.

Circumference of your tree _____ divide by 3.14 = _____

Extra challenge?

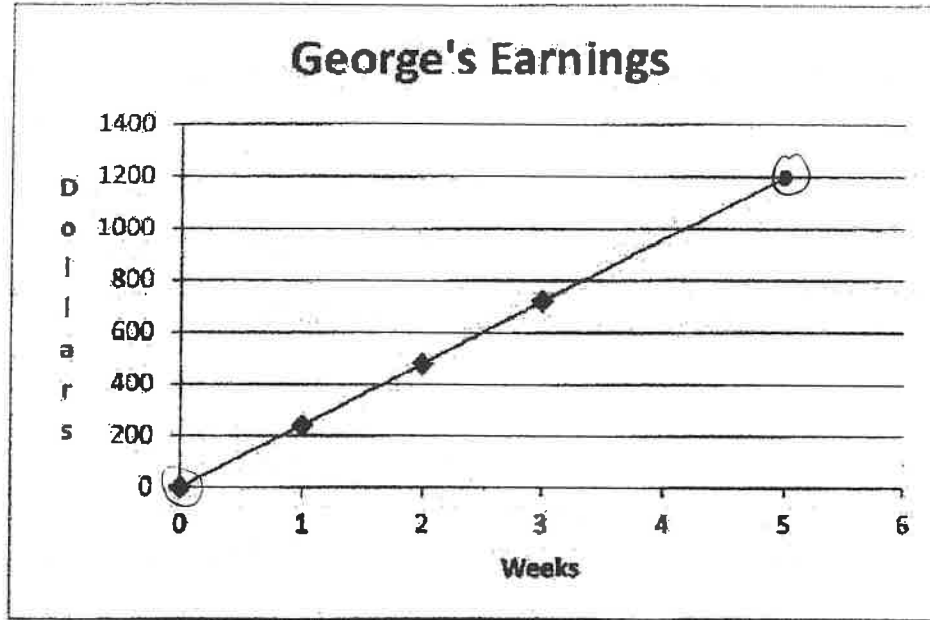
What type of tree did you measure?

Look at the leaf and investigate on the internet!



Choice #3

The graph below represents the amount of money George earns.



a. What is the y-intercept?

a. Interpret the y-intercept.

b. What is the rate of change? $\left(\frac{\text{rise}}{\text{run}}\right)$ Hint: easiest to use the two end points

c. Interpret the rate of change.

Choice #5

Two step equation quiz #5

Name: _____ Date: _____

1.

$$9 = -6p - 3$$

2.

$$-14 = 4y - 2$$

3.

$$3 + 9n = 21$$

4.

$$2c + 2 = 10$$

5.

$$8 - 5b = -7$$

Choice 7:

Earth day

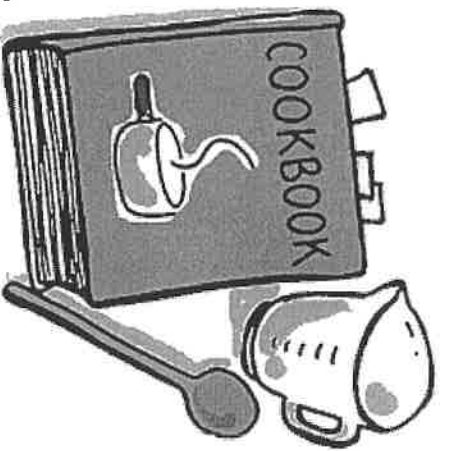
Showers

The average American shower uses 17.2 gallons (65.1 liters) and lasts for 8.2 minutes average flow rate of 2.1 gallons per minute (gpm) (7.9 lpm)

In a three days time: Determine how long everyone's shower length of time is in your home and record the number. Do this by asking members of your family to time their showers and write the time in their designated slot in the table below. If there are blanks on some days that is fine. This is just for increasing awareness on if your are above, meeting, or below the average.

2.1 x _____ (minutes in shower)

Names of family members	Day 1's time of shower multiplied by 2.1	Day 2 time of shower multiplied by 2.1	Day 3 time of shower multiplied by 2.1
	2.1 x _____ =	2.1 x _____ =	2.1 x _____ =
	2.1 x _____ =	2.1 x _____ =	2.1 x _____ =
	2.1 x _____ =	2.1 x _____ =	2.1 x _____ =
	2.1 x _____ =	2.1 x _____ =	2.1 x _____ =



Choice # 9

Recipe

You can create a poster on 8 x 11 for ease of turning in or create a power point to turn into me. Get creative if you think of another way just let me know what I can do to help.

- Find a recipe from a book or online that you would like to make.
- Write the recipe or copy the recipe for proof of assignment.

Ideas:

- Take a picture of you making the recipe ...turn this in by texting it or emailing me

...ingredients displayed

...Picture of you mixing or putting together ingredients or

...video of the parts of the process and sent to me

...picture of final product.

(Math is the using of fractions...)

Challenge: Double the recipe which requires multiplication... adding fractions. And then share it with family and maybe those isolated!

Social Studies

Call, text, Face Time or
Zoom if you need assistance!

We miss you and have
a great day 😊

Ms Thomas
and
Ms. Doyle

8th Grade Days 26-30 Social Studies NTI Assignments

This week will cover the Civil War and Reconstruction

If you have any questions please contact

Mr. Case: james.case@harrison.kyschools.us or by phone at 859-771-3945

Mr. McEwan john.mcewan@harrison.kyschools.us or by phone at 859-338-8438

Day 26: **Abraham Lincoln Crossword Puzzle.** Read the background information to help you solve the puzzle.

Day 27: Read “*A Few Appropriate Remarks*” and answer **Reading Check Questions 1-5**

Day 28: **Reconstruction Crossword Puzzle.** Read the background information to help you solve the puzzle.

Day 29-30: Reconstruction Reading “Events, Accounts, and Laws that Occured After the Civil War.” Refer to the sources to answer the 2 Questions.

1. Describe 2 examples of how former slaves **gained new freedoms** at the end of the Civil War.
2. Describe 2 examples of how former slaves were **denied freedoms** at the end of the Civil War.

ABRAHAM LINCOLN

Abraham Lincoln was born in 1809 in a Kentucky log cabin, then moved with his family to farms on the frontier in Indiana and in Illinois. He educated himself by reading, and in 1834, he became a legislator, helping make laws for the state of Illinois. In 1836, he became a lawyer. Lincoln married a Kentucky woman, Mary Todd, and in time they had four sons. Lincoln became nationally famous when he ran for U.S. Senate against Stephen Douglas. In a series of public arguments called the Lincoln-Douglas Debates, Lincoln declared the nation could not last “half slave and half free.”

The Republican Party made Lincoln their candidate for president in 1860. He won, and only a month after his election, the rebel Confederate states were at war with the United States. On January 1, 1863, he freed the slaves in the rebelling states with the Emancipation Proclamation. His aim was to discourage the South with the proclamation. Lincoln always said he was personally against slavery, but he thought the union of the states was the most important issue. Midway through the war, Lincoln spoke at a battlefield near Gettysburg, Pennsylvania. He asked Americans to stick to the ideals of freedom and equality for which many men had died.

When he was reelected as president toward the end of the war, Lincoln promised that the government would act “with malice [meanness] toward none, with charity [kindness, generosity] for all.” However, Lincoln was shot while he sat in a theater shortly after the end of the war by John Wilkes Booth, a man still angry about the South’s loss. The assassin’s bullet did not stop the ideals Lincoln worked for: freedom, equality, and national unity.

Across

3. Lincoln’s statue in Washington, D.C., is called the Lincoln _____.
6. Lincoln sought to heal the nation “with _____ toward none.”
8. Lincoln’s political party
10. State where Lincoln was born
12. State where Lincoln first was elected to public office
13. Lincoln was president during the Civil ____.
15. Number of sons Lincoln had
16. Last name of person who debated with Lincoln in a Senate campaign
17. Lincoln’s nickname

MAGAZINE ARTICLE

HISTORY ●

SPEECH ●

The Gettysburg Address took only about two minutes to deliver and is a mere 271 words long. What makes it one of history's greatest speeches?

“A Few Appropriate Remarks”

from *Highlights for Children*

by NANCY NORTON MATTILA

dedication (ded'i·kā'shən): setting apart for a special reason.

proclaimed (prō·klāmd'): stated or declared publicly.

appropriate (ə·prō'prē·it): suitable for a particular purpose.

Probably only a few of the fifteen thousand people who heard President Abraham Lincoln's speech at Gettysburg were impressed. He spoke so briefly that the photographer didn't even have time to take his picture.

President Lincoln was not the featured speaker for the dedication of the Soldiers' National Cemetery on

November 19, 1863, a little more than four months after the Battle of Gettysburg. Yet history has proclaimed his Gettysburg Address one of the greatest speeches ever made.

Two weeks before the ceremonies, Lincoln received a letter from Gettysburg attorney David Wills. “. . . I am authorized by the Governors of the different States to invite you to be present. . . . It is the desire that after the Oration, you . . . formally set apart these grounds to their sacred use by a few appropriate remarks.”

You Need to Know...

Abraham Lincoln's Gettysburg Address was given several months after the famous Battle of Gettysburg. This battle, fought from July 1 through July 3, 1863, marked the turning point in the war. Before Gettysburg, the Union had seemed to be losing and the death toll had been steadily mounting. In addition, the president had had a difficult time finding good generals to lead the Union troops. Even so, when the Union and Confederate armies met accidentally in Gettysburg, Pennsylvania, Union general George G. Meade managed to lead his troops to victory, pushing Robert E. Lee's Southern army back into Virginia. The cost was high for both sides. Over 7,000 lives were lost, and the total number of casualties—those killed, wounded, or captured—was over 50,000.

At the time, Lincoln's address hardly measured up to the spectacle of the battle. Today, however, the speech continues to remind Americans of the ideals for which the Civil War was fought—freedom, equality, and democracy.

The Final Act

President Lincoln died about a year and a half after his Gettysburg Address and only five days after the Civil War had ended. On April 14, 1865, John Wilkes Booth, an actor, shot Lincoln in the head during a play in Washington, D.C. Booth was a supporter of slavery and considered Lincoln responsible for causing the war. His first plan was to kidnap Lincoln, but after the Confederate army surrendered he decided on assassination instead. After shooting the president, Booth reportedly leaped down from Lincoln's private box onto the stage, breaking his leg in the process. Although he managed to escape to Virginia on horseback, he was soon found and shot.



Library of Congress

▲ Wanted poster for Lincoln's assassins.

dinner, Lincoln spoke briefly to a crowd outside the house, but protested that he had nothing of importance to say.

Later the President retired to his room to put the finishing touches on his speech. Lincoln's lifelong love of poetry, the Bible, and Shakespeare shaped his final choice of words.

Rain fell early the next day, but the sun came out

and shone on the people—some of them families of dead soldiers—gathered for the dedication. A band played and a prayer was offered before Everett spoke. Everett's two-hour oration contained exactly what people expected to hear, and it was greeted with much applause. It took two newspaper pages to reprint the entire speech.

At 2 P.M., President Lincoln put on his steel-rimmed glasses. (It is a matter of debate whether he wore his glasses and read, or recited his speech from memory.) Wearing white gloves, Lincoln pulled his two-page manuscript from the pocket of his black coat. He still wasn't sure if he had gotten it right as he unfolded his long legs, stepped forward, and paused before the crowd. When he started to speak, his high voice shrilled forth like the sound of a bugle.

"Four score³ and seven years ago our fathers brought forth on this continent, a new nation," he began, with a reference to 1776, the year the United States declared its independence. The President's prayer-like speech lasted only about two minutes.

Lincoln had not expected people to clap much, but he was disappointed with the lukewarm⁴ response to his "few appropriate remarks." He shook hundreds of hands before boarding the train back to Washington. During the trip,

3. score (skôr): twenty.

4. lukewarm (lūōk'wōrm'): not excited.

RECONSTRUCTION

Reconstruction means “rebuilding.” After the Civil War, the president and Congress struggled over the best way to rebuild the South. President Andrew Johnson put in place a plan of reconstruction that allowed states of the old Confederacy to rejoin the Union easily. Soon most Southern states had passed laws called the black codes, which kept freedmen (former slaves) from voting, assembling, or working at many jobs. Congress did establish a Freedmen’s Bureau to help the former slaves. The bureau founded over 4,000 schools in five years. Adults often attended these schools along with the children to learn how to read and write.

Congress grew angry over the way the new state governments were treating the freedmen. It passed amendments to the Constitution to guarantee citizens’ rights. When some states refused to accept the amendments, Congress sent the army back to the South to enforce them. Congress also passed Reconstruction Acts in 1867 that required real changes. Under the acts, new representatives were elected in the South, including the first African Americans in government. The new state governments raised taxes to pay for rebuilding, though some of the money went into the pockets of selfish politicians. Northerners came south to help with the reconstruction—or to make a profit. White Southerners named them all after the cheap suitcase of the day: carpetbaggers.

By 1877, Reconstruction had died out in the South. Why? White Southerners in general resented Reconstruction bitterly. Some people were making unfair profits from it. And Congress lost interest. Then, violence by secret groups like the Ku Klux Klan kept African Americans from voting or getting good jobs. Many black people lived in poverty as sharecroppers, working the land for a share of the crop. Most of them were always paying off debts—money borrowed so they could live until harvest time.

Across

3. Name for rebuilding after the Civil War
6. Southern term for a Northerner in the South during Reconstruction
8. The Fifteenth Amendment guarantees the right of a citizen to ____.
9. The black ____ were laws keeping freed slaves from full rights.
10. The Fourteenth Amendment gives equal _____ of the laws to all citizens.
11. The Fourteenth Amendment says all people ____ in the U.S. are citizens.
15. Someone who farms for a part of the crop
16. Under Johnson’s plan, it was easy for one of these to reenter the Union.
17. Number of the constitutional amendment that ended slavery

Listed below are Events, Accounts, and Laws that occurred after the Civil War

13th Amendment: 1865 (Frees Slaves)

Section 1. Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States...

14th Amendment: 1868 (Gives former slaves citizenship)

Section 1. All persons born or naturalized in the United States ... are citizens of the United States and of the State wherein they reside.

15th Amendment: 1870 (African American men can vote)

Section 1. The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, or previous condition of servitude.

Picture show the First Black Members of the US Congress



The Conversation, *Exploiting black labor after the abolition of slavery*, February 6, 2017

“Black men – and sometimes women and children – were arrested and convicted for crimes enumerated in the Black Codes, state laws criminalizing petty offenses and aimed at keeping freed people tied to their former owners’ plantations and farms. The most sinister crime was vagrancy – the “crime” of being unemployed – which brought a large fine that few blacks could afford to pay. Black convicts were leased to private companies...”

Former slave Henry Adams made this statement before the U.S. Senate in 1880

In September I asked the boss to let me go to Shreveport. He said, "All right, when will you come back?" I told him "next week." He said, "You had better carry a pass." I said, "I will see whether I am free by going without a pass."

Exploratory classes

Call, text, FaceTime
or Zoom us if you
need help!

Miss you!

Mr Thomas

+

Mr Doyle

Middle School Phone Number: (855) 234-7123

Team Leader: Julie Lucky (Band and Music)

Phone Extension: 4411

Email: Julie.Lucky@harrison.kyschools.us

Google Classroom Code: 44fyp7

Emily Eastman (Chorus)

Phone Extension: 4801

Email: Emily.Eastman@harrison.kyschools.us

Google Classroom code: iycuxo

Remind 101 code: Text @hemschor to 81010

Debbie Pulliam (Art)

Phone Extension: 4413

Email: Debbie.Pulliam@harrison.kyschools.us

NTI Google Classroom Code: vvv5b47

Webpage: <https://sites.google.com/harrison.kyschools.us/hemsart/home>

Morgan Farrow (Agriculture)

Phone Extension: 4511

Email: Morgan.Farrow@harrison.kyschools.us

NTI Google Classroom Code: ipawtko

Remind 101 code: Text @466484 to 81010 - **FFA only**

Glenn Lonaker (Health)

Phone Extension: 4112

Email: Glenn.Lonaker@harrison.kyschools.us

Google Classroom Codes: 6th - fmb2d3d 7th - ebrxcw 8th - crnykel

<https://sites.google.com/harrison.kyschools.us/mc-lonaker-s-health-class/>

Chelsea Hill (Physical Education)

Phone Extension: 4608

Email: Chelsea.Hill@harrison.kyschools.us

Google Classroom Code: liscsig ** if this code does not work, try 4xysbp

Remind 101 codes: Text the appropriate code to 81010

6th grade: @hill6hcm

7th grade: @hill7hcm

8th grade: @hill8hcm

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

Explore

Fine dining restaurant for a well-rounded mind.

NTI 26-30

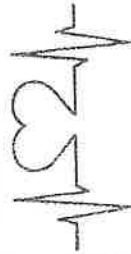
Choose 1 of the following activities to complete during the week of April 20th - April 24th.

Each student in the school must complete this assignment!

Appetizer

Phys. Ed.

Explore the thrill of creation through designing your own cardiovascular workout regimen!



Main Course

Agriculture

Travel through time and explore how agriculture has changed over the years!



Dessert

Music

Explore the power of music to underscore and express life events and personal characteristics by creating a soundtrack to your life!

Contact information for each teacher found on the next page!

Login on your School Google Account To Get To The Google Classroom Page.

First. LAST@Stu.harrison.kyschools.us

PE NTI Days 26-30: Day 2

Fitness Homework - Math connection

Name _____ Date _____ Class _____

In PE, you would be learning how to calculate a target heart rate range. For homework, your assignment is to use YOUR AGE, and YOUR RESTING HEART RATE to calculate a PERSONAL target heart rate range. Then answer the questions and have your parent/guardian sign your work. Remember to keep your decimal points lined up.

Calculating YOUR Target Heart Rate Range

Purpose: To identify a PERSONAL target heart rate zone; which is a safe and comfortable level at which to perform physical activities.

Procedure: Study the example provided before completing this activity

	EXAMPLE	FOR YOU	
		LOWER LIMIT	UPPER LIMIT
Start with 220	220	220	220
Subtract your age	-20	- _____	- _____
Equals Maximum Heart Rate (MHR) Maximum times heart should beat/min.	200	= _____	= _____
Subtract YOUR Resting Heart Rate	-70	- _____	- _____
Multiply by: 60% - Lower Limit 80% - Upper Limit	130 x .60	= _____ x .60	= _____ x .80
Add Resting Heart Rate	78.00 + 70.00	= _____ + _____	= _____ + _____
Equals Target Heart Rate (THR)	158 Beats per minute	Beats per minute	Beats per minute
		YOUR THR	

1. What does it mean if your heart rate is not within your target heart rate range when you are done exercising or participating in a physical activity?

2. What should you do if you take your pulse (heart rate) during activity and it is above your target heart rate range? **WHY?**

3. What should you do if you take your pulse (heart rate) during activity and it is below your target heart rate range? **WHY?**

Parent/Guardian Signature Required: _____

PE NTI Days 26-30: Day 3

FITNESS HOMEWORK : Cardiovascular Exercise

Types of Cardiovascular Exercise

There many **types of cardiovascular exercise**. Cardiovascular exercise is something that involves using the larger muscles like your legs. So as you can imagine there are many different way to do this. They can be divided up into a number of different categories. Indoors and outdoors exercise and with or without special exercise equipment.

Outdoor Cardiovascular Exercise

This includes running, walking, jogging, bicycling, jump-roping, swimming and some types of skiing

Indoor Cardiovascular Exercise

The indoor types of cardiovascular exercise include using treadmills, stationary bicycles, stair climbers, rowing machines, elliptical trainers and ladder climbers.

You may have noticed from the list above that for the most part the types of cardiovascular exercises you can do outside tend to be the ones that do not need any kind of special equipment. That is true for the most part. However, even when running or walking you should make sure that you wear the right kind of shoes - or you may injure your feet. Also, when bicycling you should wear a helmet. And of course, you need a jump rope to be able to go jump-roping!

For the most part though the indoor equipment is kind of expensive stuff. You may want to try some yard sales to see if you can find some of that equipment cheaper there first.

But, overall there are still many different types of cardiovascular exercise. What is best for one person may not be for another, depending upon your needs.

Assignment – Physical – 30 min. cardiovascular workout of your choice.

Activity: _____

Parent Signature (Required): _____

I participated with my child: Yes _____ No _____

1) What makes an exercise a cardiovascular exercise?

2) List three indoor cardiovascular exercises.

3) List three outdoor cardiovascular exercises.

Agriculture

(Part 1): Read through the provided documents that discuss how agriculture has changed over the years. After reading these, answer the questions on the pages titled History of Agriculture Production and Name the Equipment. After you have finished part one, you will move on to part two.

Time Travel: The History of American Agriculture

1493: Christopher Columbus brings calves, goats, sheep, pigs, chickens, melons and many vegetables to America.

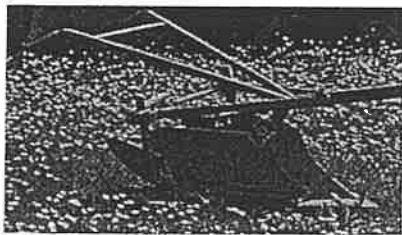
1607: English Colonists in Jamestown, Virginia plant grain potatoes, pumpkins, melons, cotton and oranges.

1609: Indians teach the Jamestown settlers how to grow corn.

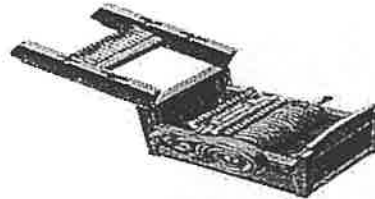
1731: Jethro Tull introduced the horse-drawn cultivator and seed drill into English farming which allowed people to plant seeds much quicker than by hand.



1784: James Small invents the iron plow in England to help break up the soil.



1793: Eli Whitney invents the cotton gin which helps separate the cotton from the seeds saving a lot of time and human labor.



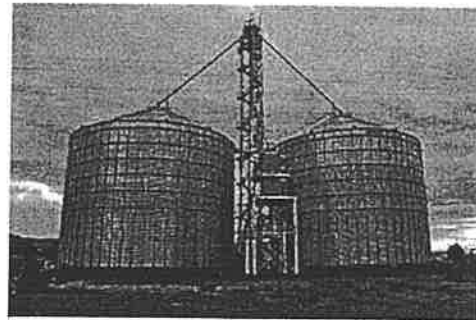
< Cotton Gin

1798: John Chapman (Johnny Appleseed) plants his first apple nursery in western Pennsylvania.

1831: Cyrus McCormick invents the reaper that helps to cut crops.

1837: John Deere begins to manufacture steel plows.

1842: The first grain elevator is used in New York to move and store grains.



1847: Irrigation methods begin to help water crops during dry periods.

1850: S.S. Rembert and J. Prescott develop a mechanical cotton picking machine.

1855: Michigan and Pennsylvania establish the first state agriculture colleges.

1858: Mason jars are invented and are commonly used to help store canned goods.

**** For additional agriculture assignments, feel free to visit Mrs. Farrow NTI Google Classrooms. (The code can be found on the front of the Explore NTI Packet.)**

Objective 1: Describe agriculture's role in developing civilizations.

Anticipated Problem: How does agriculture develop civilizations?

- I. A *civilization* is a group of people who settle in one place. In order for a civilization to survive in that place they must have food.
 - A. One way to obtain food is by hunting and gathering. If a civilization depends on this method of obtaining food, it must designate members of the group to be *hunters and gatherers*, people who go out and find food for everyone. Eventually, the group will use up all local sources of food or the population will outgrow the supply.
 - B. Another way to obtain food is to plant, care for, and harvest crops.
 1. Early civilizations found that for them to establish a community and remain in the same place, it was necessary to plant food and to tame animals. This was the beginning of agriculture science.
 2. As people began planting food and raising animals, they immediately began looking for better ways to care for plants and animals. Through scientific experimentation they began improving the science of agriculture.
 3. As people became more dependent on land and animals, they began to practice *stewardship*. *Stewardship* is the practice of taking care of land and animal resources so they can benefit future generations.

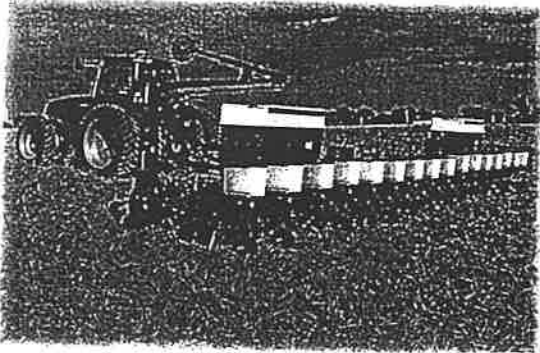
Objective 2: Identify some of the inventions that changed the agriculture industry.

Anticipated Problem: What are some of the major inventions that changed the agriculture industry?

- II. In early agricultural practices, seeds were planted and harvested by hand. Over time a number of inventions and innovations have advanced farming practices to their current state.
 - A. In 1831, Cyrus McCormick invented a mechanical reaper that made harvesting crops more efficient. The *reaper* was a machine pulled by horses that was used to cut wheat at the base of the stem. Prior to the invention, plants had to be cut by hand and bundled into shocks and stacked.
 - B. In 1837, John Deere began manufacturing a plow with a steel cutting edge, called a *steel plow*. This steel plow was light enough that horses could pull it through the ground, while at the same time it was strong enough to break up heavy prairie soil.
 - C. Soon after McCormick's reaper was invented, a thresher was invented. A *thresher* separates the grain from the stem of the plant. Farmers would pick up the stalks cut by the reaper and then hand-feed them through the thresher. After the invention of the internal combustion engine, these two machines were combined to make a combine.
 - D. An *internal combustion engine* is a device that uses fuel to create energy which is then used to do work. The invention of this engine led to the invention of tractors and combines. Work that once took days to do by hand could now be done in minutes.

PLANTER

The planter places seeds into the ground as a tractor pulls it through the field. The seeds are loaded into tanks on the planter. The machine creates a row and drops the seed in the row. The seed is then covered with a layer of soil.



(Courtesy, Case Corporation)

TRACTOR WITH LOADER

The loader is a scoop or bucket located on the front of a tractor that is used like a large shovel. It helps farmers move hay, straw, gravel, dirt, and manure around the farm.

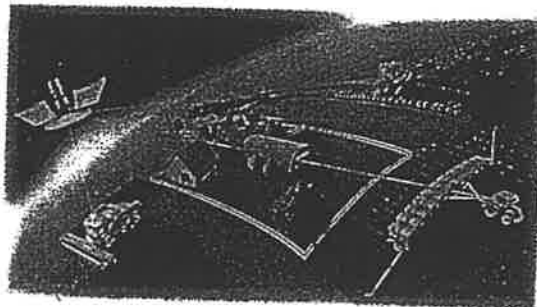


(Courtesy, Deere and Company)

Current Agriculture Equipment

GLOBAL POSITIONING SYSTEM AND GEOGRAPHIC INFORMATION SYSTEM

GPS works through satellites and computers in the tractor to pinpoint exact location. GIS is then used to make a grid for each field to tell farmers how to prepare and maintain the soil and crops in that field.



(Courtesy, Deere and Company)

THE SOUNDTRACK OF MY LIFE

Lesson Plan for Middle School Music

Prepared by Mrs. Eastman

PROMPT

In every great movie, there is a soundtrack that underscores the drama of what happens in the plot. The composer John Williams wrote musical themes for each of the main characters in the Star Wars movies. If a movie were to be made about you, what type of music would be in the soundtrack? Create an imaginary music album that shows who you really are. You may use existing songs or create original songs to describe events in your life or your personality. Finally, design an artistic cover for your album.

THE PLAYLIST

1. Choose *at least* five songs to include for your playlist. Remember, you can use existing songs or come up with your own.
2. Write down your song list on a separate sheet of paper. Put the playlist in the order you like best.
3. For each song, write liner notes that include the following: musical genre of the song, the tempo, the time signature, type of musical ensemble performing the song, the mood of the song, and why it is relevant to your life.

COVER ART

Create an album cover for the Playlist of Your Life. You can title the album whatever you like. Include that on the cover.

Science

Call, text, FaceTime
OR Zoom as if you
need help!

We miss you! 😊
Mr Thomas
&
Mr. Doyle

Modified

Ms. Hanrahan and Mrs. Klausman's Days 26-30
Science NTI Assignments 8th Grade

This week we will continue talking about the history of the Earth or geologic time. Last week you learned about the creation of Earth during the Precambrian era. This week we will be working towards the present. You all will be learning about the Paleozoic, Mesozoic, and Cenozoic eras. Remember, geologic time is a theory about when and how our planet was created and how it has changed over time.

Day 26 - *Monday*

1. Read section 1 "The Paleozoic Era" on pages 648-654.
2. Answer questions ~~1-2~~ in the "section 1 review" on page 654.
1-2

Day 27 - *Tuesday*

1. Read section 2 "The Mesozoic Era" on pages 655-659.
2. Answer questions ~~1-2~~ in the "section 2 review" on page 659.
1-2

Day 28 - *Wednesday*

1. Read section 3 "The Cenozoic Era" on pages 660-665.
2. Answer questions ~~1-2~~ in the "section 3 review" on page 665.
1-2

Days 29 and 30

1. Review page 668.
2. Answer questions 1-21 on pages 669-670, "chapter 23 assessment."

READ Thursday & Friday

*****Questions, Comments, or Concerns*****

8th Gold

1. Call the middle school at 859-234-7123
2. Email emma.hanrahan@harrison.kyschools.us
3. Message Ms. Hanrahan on the Remind App. Remind info: text: @7g6c8k to 81010
4. Ms. Hanrahan is on Zoom at 1pm on Monday, Wednesday, and Friday. This program allows students and parents to video conference with me. This can be used on either

The Paleozoic, Mesozoic, and Cenozoic Eras

BIG IDEA Complex life developed and diversified during the three eras of the Phanerozoic as the continents moved into their present positions.

SECTIONS

- 1 The Paleozoic Era
- 2 The Mesozoic Era
- 3 The Cenozoic Era

LAUNCHLAB

Lab Station

How is oil stored in rocks?

Many sedimentary rocks contain oil and water. How are these materials stored in sedimentary rocks? Model how oil and water migrate through rocks in this lab.

FOLDABLES

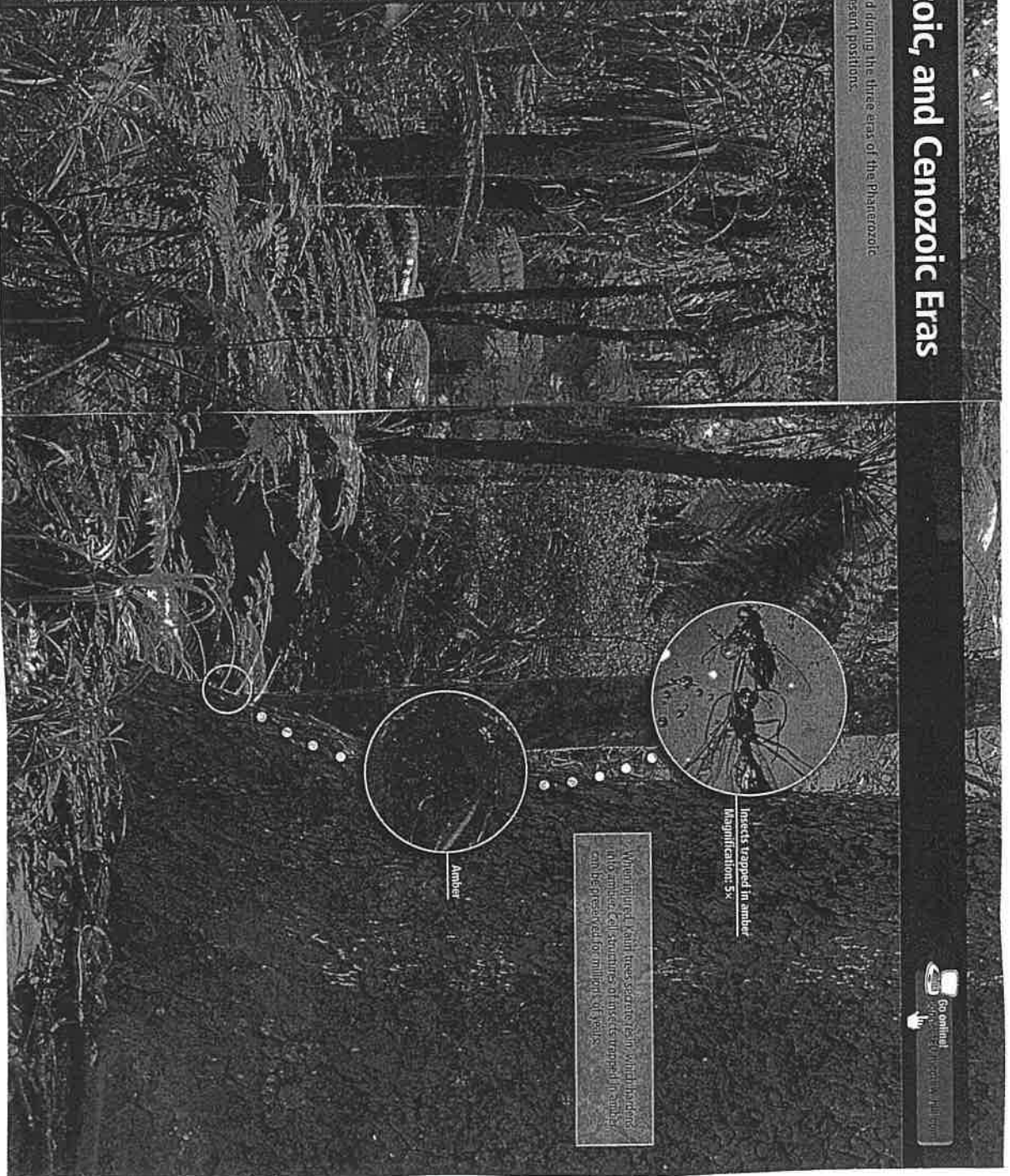
Study Organizer

Paleozoic Life-forms

Make a three-tab book using the labels *Early*, *Middle*, and *Late Paleozoic*. Use it to organize your notes on the life-forms of the Paleozoic.



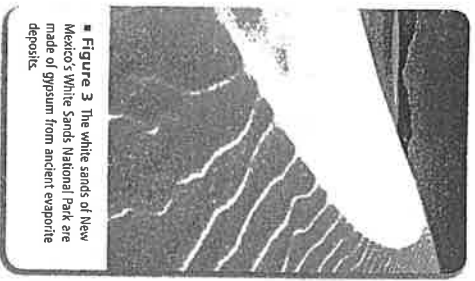
(a) iStock Photo/Photo Researchers; (b) Black P. Kent/Corbis; (c) iStock/Photo Researchers; (d) iStock/Photo Researchers



Go online
for more information.

Page 646

Page 647



■ **Figure 3** The white sands of New Mexico's White Sands National Park are made of gypsum from ancient evaporite deposits.

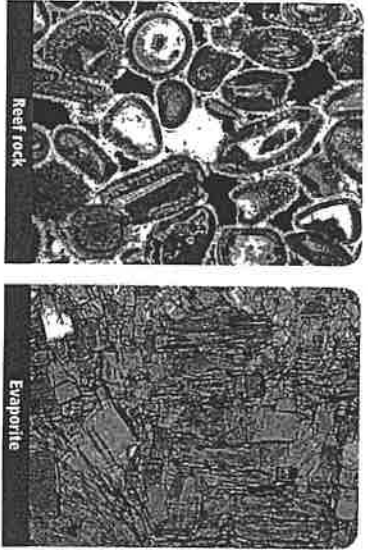
Evaporites Scientists also learn about fluctuating sea level by studying evaporite deposits. Recall that evaporite deposits are rocks that have crystallized out of water that is saturated with dissolved minerals. Some evaporite deposits can be associated with fossilized reefs.

Fossilized reefs are made of the carbonate skeletons of tiny organisms called corals. Reefs form in long, linear mounds parallel to a continent or island, where they absorb the energy of the waves that crash against them on their seaward side. The area behind the reef, called a lagoon, is protected from the wave's energy. In a tropical setting, water in the lagoons evaporates in the warm sunshine, and minerals such as halite and gypsum precipitate out. Over time, cycles of evaporite deposition mark changes in water level.

☐ **READING CHECK** Explain how evaporites and reefs are related.

Mineral deposits Huge amounts of gypsum and halite evaporites were deposited in Paleozoic lagoons. The white sands of White Sands National Park, shown in **Figure 3**, are the remains of one such evaporite deposit. Other deposits, such as those in the Great Lakes area of North America, are mined commercially. Halite is used as road salt. Gypsum is an ingredient in plaster and drywall.

Impermeability As shown in **Figure 4**, reef limestones tend to have large pore spaces, allowing oil and other liquids to move through them. Evaporite rocks, in contrast, are impermeable. This means that they contain very little connected pore space and liquid cannot move through them. When an evaporite deposit overlies a reef rock that contains oil, it seals in the oil and prevents the oil from migrating. A good example is the Permian Basin, home to the Great Permian Reef Complex in western Texas and southeastern New Mexico. The oil in this complex rarely leaks to Earth's surface because of its tight evaporite seal.



(l)B.S.P./CORBIS, (r)Kansas Geological Survey/igs.ku.edu, (r)Alfred Pasika/Photo Researchers

Factors of sea-level change Scientists have determined that sea levels transgressed and regressed as many as 50 times during the late Paleozoic. Geologists have found a number of reasons for relative sea level change—climate and glaciation cycles, crustal subsidence and uplift, varying sedimentation rates, and plate motions. These were all factors in the transgressive and regressive cycles of the Paleozoic.

☐ **READING CHECK** Infer how glaciation affects sea level.

Mountain Building

Laurentia's margins were passive during the first period of the Paleozoic, and mountains were not forming. However, changes occurred during the Ordovician (or dub Vih shun) Period. At that time, Laurentia collided with the Taconic Island Arc, and mountains began to rise in what is now northeastern North America. This event is called the Taconic Orogeny. The Taconic Orogeny added new land and established an active volcanic zone along Laurentia's eastern margin. Remnants of this event are present in New York's Taconic Mountains.

Laurentia deformed Laurentia was further transformed in the Silurian (si LUR ee uh) Period when Laurentia's eastern margin collided with Baltica and Avalonia. Baltica was a landmass that today is part of northern Europe and parts of Russia. Avalonia was an island ocean arc. You can see Baltica and Avalonia approaching Laurentia in **Figure 5**. The deformation caused by these collisions—called the Acadian Orogeny—added folds, faults, and igneous intrusions to the already deformed Taconic rocks.

VOCABULARY
ACADEMIC VOCABULARY
 Transform to change in a major way
 The continent was transformed by a massive orogeny.



■ **Figure 5** Baltica and Avalonia collided with the Taconic Island Arc during the Ordovician. This was one of the many Paleozoic tectonic events that transformed eastern Laurentia.

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Day 27 (Tuesday)

SECTION 2

The Mesozoic Era

MAIN IDEA Reptiles became the dominant terrestrial animals during the Mesozoic while Pangaea broke apart.

EARTH SCIENCE 4 YOU

Do you like mystery novels? One of the biggest mysteries in the history of science is what caused the extinction of the non-avian dinosaurs.

Mesozoic Paleogeography

The mass extinction event that ended the Paleozoic Era ushered in new opportunities for animals and plants of the Mesozoic Era. Earth's life-forms changed drastically as new kinds of organisms, shown in Figure 8, evolved to fill empty niches. While some groups of these organisms remain on Earth today, none of the giant reptiles that dominated the land, sea, and air and typified the era, survived. The non-avian dinosaurs all became extinct at the end of the era.

Breakup of Pangaea When the Mesozoic Era began, a single global ocean and a single continent—Pangaea—defined Earth's paleogeography. During the late Triassic Period, Pangaea began to break apart. The heat beneath Pangaea caused the continent to expand, and Pangaea's brittle lithosphere began to crack. Some of the large cracks, called rifts, gradually widened, and the landmass began spreading apart. The ocean flooded the rift valleys to form seaways, and large blocks of crust collapsed to form deep valleys. The Mesozoic climate was warm and tropical, and it remained warm enough throughout the era that glaciers did not form.

Essential Questions

- How did the breakup of Pangaea affect Earth's life-forms and paleogeography?
- How did the relocations of Western North America form?
- What are possible causes for the extinction of the non-avian dinosaurs and other Mesozoic life-forms?

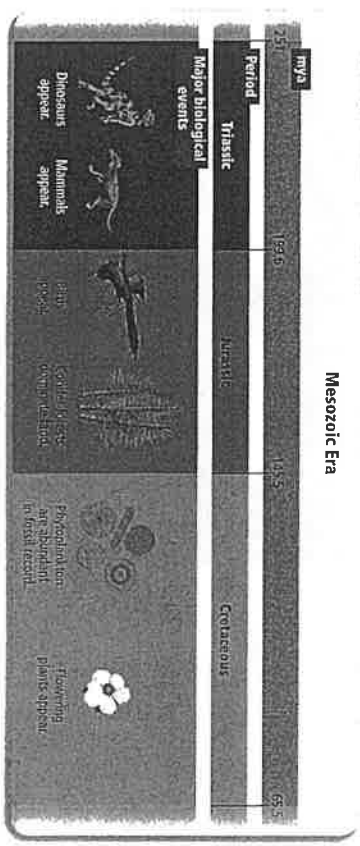
Review Vocabulary

subduction, the process by which one tectonic plate descends beneath another

New Vocabulary

phytoplankton
aminic egg
lindium

Figure 8 Although dinosaurs are the most famous of the Mesozoic life-forms, other organisms also appeared during this era.



Section 2 • The Mesozoic Era 655



Figure 7 This artist's reconstruction shows what a Carboniferous swamp might have looked like. Explain why Carboniferous swamps produced coal deposits.

Terrestrial plants The Ordovician and Devonian extinction events appear to have affected mainly marine life. They had little effect on life-forms living on land. Simple land plants began to appear on Earth in the Ordovician. During the Carboniferous, the first plants with seeds, called seed ferns, diversified. Because seeds contain their own moisture and food sources, they enabled terrestrial plants to survive in a variety of environments.

Carboniferous swamps Many Carboniferous plants lived in low-lying swamps, such as the one shown in Figure 7. As these plants died and sediment accumulated, they compacted to coal deposits. Swamps were also breeding grounds for insects. Fossils of the largest known insects have been found in Carboniferous sediment deposits, including dragonflies with 74-cm wingspans. Compare this to the largest known wingspan of a modern dragonfly—19 cm.

Permian changes At the end of the Permian, the largest mass extinction in the history of Earth occurred. The Permian-Triassic Extinction Event caused the extinction of nearly 95 percent of marine life-forms. Unlike the mass extinctions at the end of the Ordovician and Devonian, this extinction affected both marine and terrestrial organisms. More than 55 percent of the amphibians and almost one-third of all insects did not survive. What could have caused such a widespread catastrophe? It was probably a combination of causes. First, there was a dramatic drop in sea level from the coalescence of Pangaea closing and draining the shallow seas. A regression would have been particularly critical for organisms inhabiting the continental shelves when there was only one continent. Other contributing factors likely included extreme volcanism in Siberia, low atmospheric oxygen levels, and climate change.

SECTION 1 REVIEW Day 26 Do #1 and #2

Section Self-Check

Understand Main Ideas

- MAIN IDEA** Explain how the formation of Pangaea affected the evolution of life-forms.
- Compare transgression and regression.
- Discuss the relationship between oil deposits and evaporites.
- Assess the significance of the Cambrian explosion.

Think Critically

- Infer** what has happened to the Ancestral Rockies since their formation.
- Predict** changes in the fossil and rock record that might indicate a marine extinction event.

MATH > Earth Science

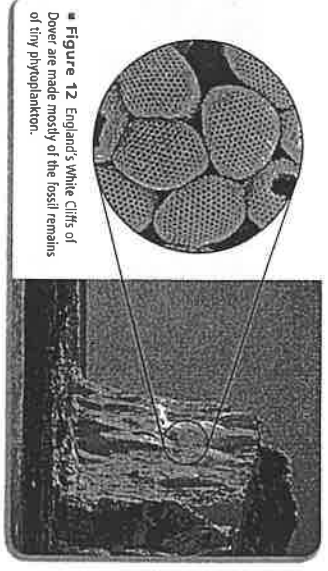
If 10 million species exist today and 5.5 species become extinct every day, calculate how many years it would take for 36 percent of today's species to become extinct.

Lidvik Pevak/Photo Researchers

Mesozoic Era

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■ Figure 12 England's White Cliffs of Dover are made mostly of the fossil remains of tiny phytoplankton.

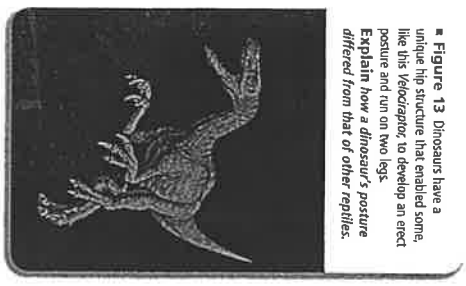
Mesozoic Life

As Pangaea broke apart during the early Mesozoic, much of the habitat on the continental shelves that was lost during Pangaea's formation once again became available. New marine organisms, ranging from large predatory reptiles to tiny photosynthetic phytoplankton, evolved to fill these niches. **Phytoplankton** are microscopic organisms at the base of the marine food chain. These organisms were abundant during the Cretaceous. The remains of their shell-like hard parts are seen in many chalk deposits around the world, including England's famous White Cliffs of Dover, shown in Figure 12.

Plant life As the cool climate that characterized the late Paleozoic came to an end during the Mesozoic, plant life changed sharply. The large, temperate swamps dried as the climate warmed. Tall cycad trees are seed plants without true flowers. These evolved during the Jurassic, along with ginkgos, pine trees, and other conifers. Flowering plants appeared during the Cretaceous.

Terrestrial animals Mammals appeared during the late Triassic, around the same time as the dinosaurs. However, the dominant Mesozoic animals were the reptiles. Unlike amphibians, whose eggs need to be laid in water to prevent drying out, reptiles can lay their eggs on dry land. These eggs, called **amniotic** (am nee AH tihk) eggs, contain the food and water required by developing embryos inside. Amniotic eggs made it possible for reptiles, including dinosaurs, to roam widely.

Dinosaurs Archosaurs are a group of reptiles which includes dinosaurs and crocodilians. Archosaurs have a unique skeletal structure that allows for speed and flexibility of movement. While lizards and turtles walk with a sprawling posture, archosaurs have a hip structure that allows the legs to be held underneath the body. This enabled some dinosaurs to run with an upright posture, as shown in Figure 13.



■ Figure 13 Dinosaurs have a unique hip structure that enabled some, like the Velociraptor, to develop an erect posture and run on two legs. Explain how a dinosaur's posture differed from that of other reptiles.

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Explore extinctions during the Phanerozoic with an interactive table. **Concepts in Motion**

Extinction event	End Ordovician	Late Devonian	Permo-Triassic	End Triassic	End Cretaceous
Approximate mya	440 mya	360 mya	250 mya	200 mya	65 mya
Percentage groups extinct	57 percent marine	50 percent marine	95 percent marine 70 percent land	48 percent marine	75 percent marine 56 percent land

Mass extinction At the end of the Mesozoic, an extinction event devastated terrestrial dinosaurs, most marine reptiles, plants, and many other organisms. Today, most scientists agree that the combination of massive volcanism, which stressed Earth's climate, and a large meteoric impact that occurred at the end of the Cretaceous is responsible for the extinction event. It is thought that the meteorite was at least 10 km in diameter. An impact of this size could have blown up to 25 trillion metric tons of rock into the atmosphere, causing long-lasting greenhouse warming. Evidence for this impact includes an impact site—Chicxulub Crater—on Mexico's Yucatan Peninsula, as well as a unique layer of clay that separates Cretaceous rocks from rocks of the first period of the Cenozoic. Found worldwide, this layer contains an unusually high amount of **iridium** (ih RID ee um), a rare metal in Earth's rocks but a relatively common metal in asteroids. As shown in Table 1, the extinction event at the end of the Mesozoic was relatively mild compared with the Permo-Triassic Extinction Event at the end of the Paleozoic.

SECTION 2 REVIEW

Day 27 Do #1 and #2

Section Summary

- The breakup of Pangaea triggered a series of tectonic events that transformed western Laurentia.
- The Atlantic Ocean began to form during the Mesozoic as North America broke away from Europe.
- Dinosaurs and other new organisms evolved to fill niches left empty by the Permo-Triassic Extinction Event.
- All dinosaurs, except birds, along with many other organisms became extinct during a mass extinction event at the end of the Mesozoic.

Understand Main Ideas

1. MAIN IDEA Discuss the significance of the Permo-Triassic Extinction Event for the animals that populated the Mesozoic.
2. Explain how rifts are related to the formation of oceans.
3. Compare the tectonic events that transformed Laurentia's western margin with the tectonic events that changed Laurentia's eastern margin.
4. Discuss the evidence that suggests a meteorite impact was responsible for the extinctions at the end of the Mesozoic Era.

Think Critically

5. Deduce what happened to the oceanic plate that subducted beneath western North America during the Mesozoic.

WRITING▶ Earth Science

6. Prepare a report deconstructing the chain of events that might have occurred once the meteorite hit Earth. Include a discussion of the effect on climate, air quality, and plant and animal life.

Page 659



Figure 17 This 38-million-year-old fossil bird was found in Wyoming's Green River Formation. The fossil is about 25 cm long.

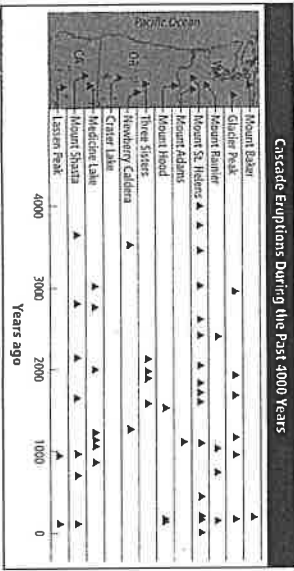
Cenozoic Mountain Building

The mountain-building events of the Mesozoic uplifted massive blocks of crust to form the Rocky Mountains. During the Cenozoic, erosion wore down the Rockies but uplift continued. Eroded sediment filled large basins adjacent to the mountains. Today this sediment is mined for coal. It also contains well-preserved fossils of fish, insects, plants, and birds. A fossil bird from one of the most famous of these deposits—Wyoming's Green River Formation—is shown in Figure 17.

Subduction in the West Volcanism returned to the western coast of North America at the end of the Eocene Epoch when the oceanic Farallon Plate began a steep subduction beneath the Pacific Northwest. As a result, the Cascade Mountains began to rise. Volcanoes in the Cascade range remain active today, as shown in Figure 18.

While subduction continued in northwestern North America, the Farallon plate disappeared under what is now California. The North American Plate came into contact with another oceanic plate—the Pacific Plate—that was moving in a different direction. As a result, the San Andreas Fault formed. The San Andreas Fault is a transform boundary between the two plates. Recall that in a transform boundary, two plates slide against each other and there is no subduction. Because there is little to no subduction beneath central and Southern California today, there is little volcanic activity there.

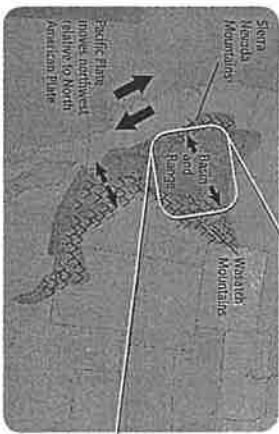
Basin and Range Province The beginning of the interaction between the North American Plate and the Pacific Plate coincided with the formation of the Basin and Range Province in the southwestern United States and northern Mexico. Recall that the Basin and Range Province consists of hundreds of nearly parallel mountains. These mountains were formed when stresses in Earth's crust—called *extension*—pulled it apart. This process, illustrated in Figure 19, continues today.



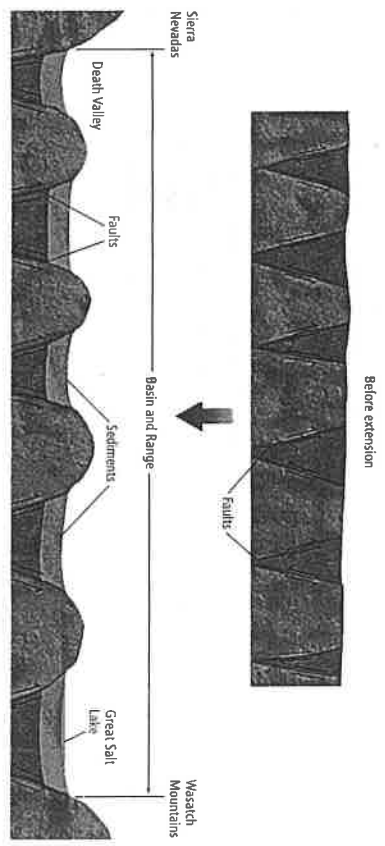
Source: USGS

VISUALIZING Basin and Range Province

Figure 19 The Basin and Range Province is a series of mountains and basins that is bordered on the west by California's Sierra Nevada and on the east by Utah's Wasatch Mountains. During the past 25 million years, crustal stretching has increased the distance between these two points by over 250 km.



The stretching underneath the basin and range province is caused, in part, by the steady movement of the Pacific Plate relative to the North American Plate. The North American Plate is being stretched to the northwest, and the basin and range province is being stretched in an east-west direction.



To compensate for crustal stretching, the rocks broke up into hundreds of blocks along normal fault lines. Some blocks rose to form mountains, while adjacent areas dropped to form basins. The mountains are still being pushed upward, rising as quickly as they erode, and the basins are still dropping and filling with eroded debris. The crust underneath the Basin and Range Province has stretched so much that it is one of the thinnest parts of Earth's crust today.

Concepts in Motion View an animation of the formation of the Basin and Range Province.

Day 29 + 30 Just Review + Read

CHAPTER 23 STUDY GUIDE

CHAPTER 23 ASSESSMENT

Chapter Self-Check 100

Vocabulary Practice

- VOCABULARY**
- paleogeography
 - passive margin
 - transgression
 - regression
 - Cambrian explosion

BIG IDEA Complex life developed and diversified during the three eras of the Phanerozoic as the continents moved into their present positions.

SECTION 1. The Paleozoic Era

- MAIN IDEA** Life increased in complexity during the Paleozoic while the continents collided to form Pangaea.
- Scientists study sediment and evaporite deposits to learn how sea levels fluctuated in the past.
 - Eastern Laurentia was transformed by many mountain-building events during the Paleozoic.
 - A great diversity of multicellular life appeared during the first period of the Paleozoic.
 - The largest extinction event in Earth's history occurred at the end of the Paleozoic.

SECTION 2. The Mesozoic Era

- MAIN IDEA** Reptiles became the dominant terrestrial animals during the Mesozoic while Pangaea broke apart.
- The breakup of Pangaea triggered a series of tectonic events that transformed western Laurentia.
 - The Atlantic Ocean began to form during the Mesozoic as North America broke away from Europe.
 - Dinosaurs and other new organisms evolved to fill niches left empty by the Permian-Triassic Extinction Event.
 - All dinosaurs, except birds, along with many other organisms became extinct during a mass extinction event at the end of the Mesozoic.

SECTION 3. The Cenozoic Era

- MAIN IDEA** Mammals became the dominant terrestrial animals during the Cenozoic while the continents assumed their present forms.
- Ice covered nearly one-third of Earth's land surface at the peak of the Cenozoic ice ages.
 - The Cascade Mountains began to rise and the San Andreas Fault formed during the Cenozoic.
 - The Cenozoic is known as the Age of Mammals.
 - Fossil evidence suggests that modern humans appeared during the Pleistocene.

- VOCABULARY**
- *Homo sapiens*
 - bipedal

VOCABULARY REVIEW

Match the definitions below with the correct vocabulary term from the Study Guide.

- the ancient geographic setting of an area
- the organisms at the base of the marine food chain
- the increase in diversity and abundance of marine life-forms at the beginning of the Paleozoic Era
- the movement of a shoreline seaward as sea level falls

Use a vocabulary term from the Study Guide to answer each of the following.

- Which term is used to describe upright locomotion on two legs?
- What metal is rare on Earth's surface but relatively common in asteroids?

Fill in the blanks with the correct vocabulary terms from the Study Guide.

- The movement of a shoreline inland as sea level rises is called _____.
- _____ are primates with bipedal locomotion.
- The _____ was a reproductive feature that allowed reptiles to migrate widely on land.

UNDERSTAND KEY CONCEPTS

- Which was the dominant terrestrial life form during the Mesozoic Era?
 - mammals
 - dinosaurs
 - birds
 - fish
- Which term describes a shoreline that is experiencing no tectonic activity?
 - active margin
 - passive margin
 - trrench
 - egression
- During which geologic time period did the Atlantic Ocean begin to form?
 - Triassic
 - Jurassic
 - Creataceous
 - Devonian
- How much of Earth's land surface did glaciers cover at the height of the ice ages?
 - 10 percent
 - 60 percent
 - 30 percent
 - 90 percent
- Which metal that is rare in Earth's rocks but relatively common in asteroids is used as evidence that there was an asteroid impact at the end of the Creataceous?
 - iron
 - uranium oxide
 - iridium
 - zircon
- Which supercontinent formed at the end of the Paleozoic?
 - Rodinia
 - Gondwana
 - Laurasia
 - Pangaea



Use the figure below to answer Questions 13 to 15.

- What formed the deposits in the photo above?
 - asteroid residue
 - evaporation of seawater
 - baritation
 - phytoplankton
- Where would these deposits most likely have formed?
 - ocean floor
 - shoreline
 - lagoon
 - coral reef
- Which item could be made from this deposit?
 - laundry detergent
 - plaster powder
 - chalk
 - sponge

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