**Cohen Middle School**
**100 Robinwood Avenue**
**Elmira Heights, NY 14903**
**734-5078**

**Name:** _____ **Date: February 19,2020**____

| |
|---|
| **Math:** Intro to Exponents<br><br>new notebooks hmwk wksht. |
| **Social Studies:**<br>- **Qin Dynasty**<br><br>**HW: Army for the dead** |
| **ELA:** Daily Warm Up<br>Page 111 Questions 1-5<br>My Perspectives |
| **Science** ① SEASONS TEST CORRECTIONS DUE FRIDAY (write out/RESTATE QUESTION and full answer sep. paper) CAN Re-draw diagram Q20-21<br>② HW: "JET STREAM" + "CAMPING" WS |
| **Computer Apps/ Technology** |

Name: _____ edHelper

# An Army for the Dead

Many rulers have wanted to be remembered after their deaths. Egyptian pharaohs had pyramids built. These pyramids were tombs for their bodies and warehouses for their treasures. The first emperor of the Qin Dynasty in China chose a different kind of memorial for himself.

Workers began construction on the tomb of Qin Shi Huang in 246 B.C. Historians have concluded that this tomb was to be big enough for the emperor and a large store of the treasure he had collected. The inside of the tomb was to look like the universe. The ceiling was set with pearls and other jewels to represent the stars and planets. The bodies of water on the Earth were made of mercury. You may have seen this flowing, liquid silver element in a thermometer. The actual tomb has not yet been entered. Scientists have, however, discovered evidence of high levels of mercury in the soil. This has led them to believe that stories of the lavish tomb are true.

The Qin emperor chose a very unusual way to protect his tomb. He wanted his army to surround him, even in death. Craftsmen created life-sized soldiers, horses, and chariots that were buried around the tomb. These figures were made of terra cotta. Terra cotta means "baked earth." Red clay is formed into an object and then put into an oven, or kiln, to bake slowly. Once the object has been baked, a lacquer is applied to give it a shiny, hard finish. Perhaps you have seen a terra cotta flower pot or terra cotta tiles on the roof of a house. Terra cotta is fragile. It can chip easily when kept in the sun for too long.

An entire army of terra cotta soldiers was created for the tomb of the emperor. Farmers found the first of the soldiers while drilling for water in March of 1974. Archeologists were excited to find the first few statues in amazingly good shape. After all, they had been buried for over 2,000 years. What they were able to find in the next few years of excavation was more than scientists had ever dreamed. So far, 8,099 terra cotta soldiers have been unearthed.

The terra cotta soldiers were not mass produced. Each statue has a different face, a different hair length, a differer type of uniform. There are infantry soldiers, cavalry soldiers, officers, and archers. Each statue carries a weapon. Some have spears, some swords, and some crossbows. The weapons are real. It is believed that they were used in actual battle. Most of them can be dated back to about 228 B.C. Chariots and horses were also created for this army.

Four separate pits were dug to house the statues. The figures were placed in the same position they would have held if they were a real army. There were 6,000 figures found in the largest pit. Here you would find the infantrymen, chariots, and horses. These figures represented the main part of the army. The second largest pit held statues of cavalry and infantry soldiers with chariots. It is believed that these 1,400 statues represented the emperor's personal guard. The third pit contained the officers. It also had a larger chariot drawn by four horses.

There were only 68 figures in this pit. The fourth pit was empty. It is believed that the emperor wished to be able to show what great power he had on earth when he entered his life after death.

Evidence has been uncovered that a fire was started in the tomb approximately five years after the death of the first emperor. History points to an army general as the one who ordered the fires. Although the fires kept burning for over three months, much of the terra cotta army survived. The same can't be said for the treasure the emperor had buried with him. It disappeared with the general and his army.

Nearly two million people a year now visit the site where the terra cotta army was unearthed. Excavations are still being conducted. Perhaps someday, the entire site will be open. Emperor Qin wanted to be remembered. His terra cotta army has been a standing memorial to him for over 2,000 years.

An Army for the Dead

## Questions

_____ 1. Terra cotta is baked clay.

A. true
B. false

_____ 2. Where was the terra cotta army found?

A. Egypt
B. Japan
C. China
D. Mexico

_____ 3. Who was the tomb built for?

A. an army
B. an emperor
C. a pharaoh
D. a general

4. Why was the tomb set on fire?

_____

_____

5. How were the terra cotta soldiers made?

_____

_____

_____ 6. How many soldiers have been found?

A. under five thousand
B. over ten thousand
C. just a few
D. over eight thousand

_____ 7. Who discovered the first terra cotta soldiers?

A. children playing
B. soldiers looking for treasure
C. farmers digging a well
D. prospectors looking for gold

_____ 8. What was each terra cotta soldier buried with?

A. a chariot
B. a knapsack
C. a real weapon
D. a horse

Full Name: _____ Date: Wed. 2/19/20 Period: 2 3 5 6 7

HW

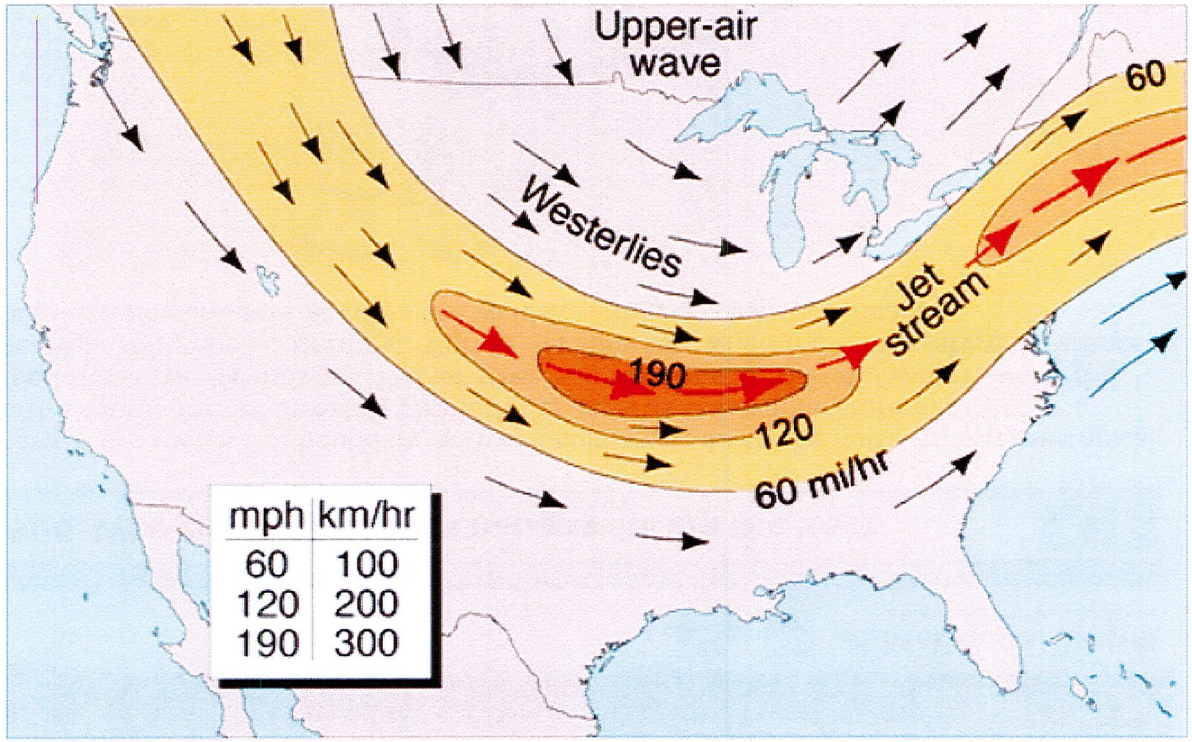
JET STREAM

Please Complete: 1) Owed work 2) Seasons Test Corrections **DUE FRIDAY**

3) **HW** "Jet Stream / Camping Trip" DUE Thursday, beginning of class (Resource: http://stem-works.com/external/activity/25 )

## ES1906 Great Rivers of Air

Jet streams are narrow bands of high-speed winds that move like great rivers of air around Earth in each hemisphere. These rivers of air are located between 8 to 12 miles (13 to 19 km) above Earth's surface, and generally flow from west to east at mid-latitudes. Wind speeds within jet streams reach as high as 250 miles per hour (400 km/hr).




National Weather Service

Generalized view of the polar jet stream flowing across North America.

**Read** the article, then complete this summary section:

**In which layer of the atmosphere is the Jet Stream?** _____

_____

**How far above the Earth's Surface are they found?** _____

_____

**Which compass direction does the Jet Stream generally flow across the US?**

_____

_____

**Record the range of the wind speeds**

_____

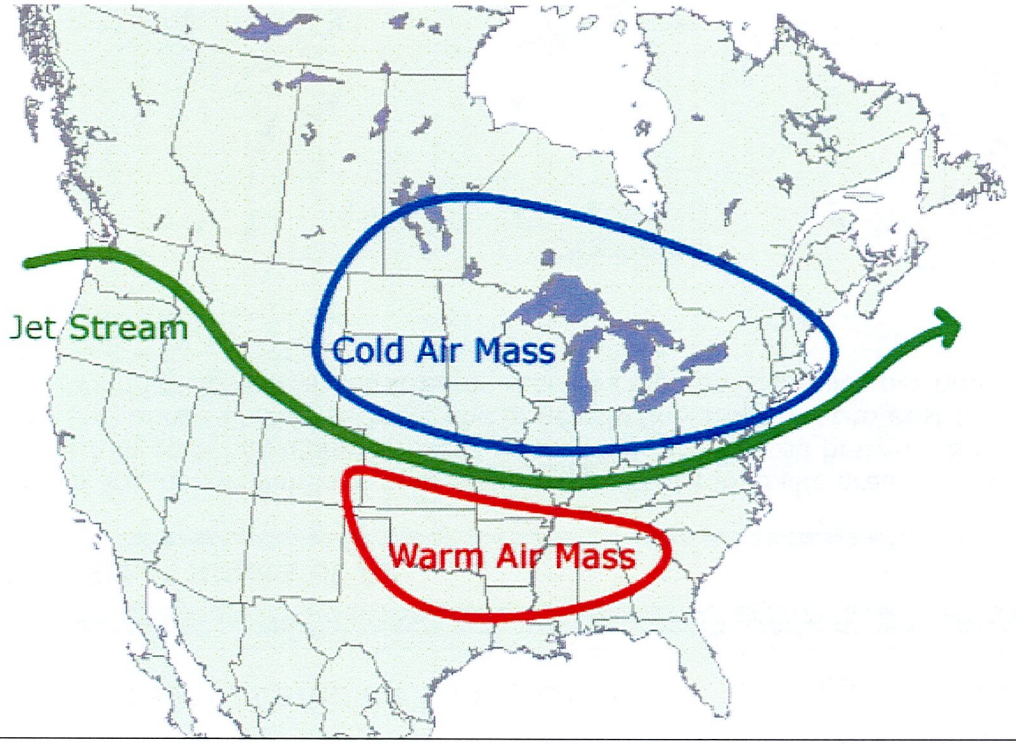
Jet Stream HW

## How Does the Jet Stream Change through the Year?

McDougal Littell
A HOUGHTON MIFFLIN COMPANY

### ES1906 Why the Jet Stream Changes during the Year

The jet stream marks the boundary between cold arctic air to the north and warm tropical air to the south. The jet stream's strength depends on the temperature difference between these two air masses. The jet stream is strongest during the winter, when the temperature difference is greatest. During the summer, when the temperature difference between the air masses is smaller, the winds of the jet stream are weaker.




The Jet Stream marks the boundary between _____ _____ air to the _____ and _____ tropical air to the _____

The Jet Streams strength depends on _____ _____ between _____ _____

The jet stream is strongest during _____ when the difference in _____ is greatest.

During summer, the temperature difference between _____ _____ is smallest.

Weather INV #4 2/19/20



# Camping Trip

Five friends were camping in the north woods. It was a clear night with mild weather conditions. Sunset was at 9:14 pm. Sunrise was at 5:22 am. The five friends wondered when it would be the coldest as they slept under the stars.

This is what they said:

**Colin:** "I think it will be coldest right after the Sun Sets."

**Bond:** "I think it will be coldest at midnight."

Jerry: "I think it will coldest around 3:00 am"

Emma: "I think it will be coldest at the beginning of sunrise."

Kate: "I think it will be coldest a few hours after sunrise."

Which person do you agree with most? Why?

_____

_____

_____

_____

# Investigation 4 Heat Transfer Concepts

Read over / study these concepts two or three times prior to class Thursday

| | |
|---|---|
| **Differential Heating** | The different rates at which (earth) materials heat up, based on their properties |
| **Radiate** | The transfer of energy from more heat to less heat, the movement of atoms and particles: |
| **Energy** | The ability to do work |
| **Radiation** | The transfer of heat energy through space from the sun or heat source to materials:<br>**No touch: just waves or rays** |
| **Convection** | The transfer of heat energy through fluids due to an object's density:<br>Particles flow through currents<br>(air, liquid, gas) |
| **Re-radiate** | The transfer of energy from the sun to the earth's surface and BACK into the Atmosphere: **Bounce back** |
| **Matter** | Anything in the universe that has mass and takes up space |
| **Kinetic Energy** | Energy in Motion;<br>Movement of atoms and particles |

Name_____ Class Period____

**ELA 6 WARM UP**
**Week of 2/19/20**

**Be a learner not a finisher.**

**Monday Mistakes**

**No School – Mid-Winter Break**

**Tuesday Terms**

**No School – Mid-Winter Break**

| Word: | Definition: |
|---|---|
| Sentence: _____ | Sketch: |

**Wednesday Word Ladder**

Flip the paper over and complete the word ladder

**Thursday Thoughts**

**"Where you are right now doesn't have to determine where you'll end up." – Barack Obama 44th President of the United States**

Write 2 to 3 sentences explaining what this quotation means.

**Free Write Friday**

**Respond to the following prompt in 5 to 7 sentences.**
**If I was President of the United States I would...**

Name _____

Read each clue and write the answer in the blanks.
Use the first and last words to fill in the sentence under the ladder.

HINT! Words with a ★ are more challenging!

SOCIAL STUDIES

# HEAD OF STATE

**11. Head of the executive branch of government.**
Add 1 letter.

★ **9. To live in a place.**
Add 2 letters.

★ **7. A ritual.**
Change 1 letter.

**5. To connect one thing to another.**
Add 2 letters.

★ **3. A type of string instrument.**
Change 1 letter.

**1. To carry out an order.**
Take away 2 letters.

**Start Here**

**10. A person who lives in a place.**
Add 2 letters.

**8. I went for a ___ on my new motorcycle.**
Change 1 letter.

**6. To score or judge.**
Take away 2 letters.

**4. Arriving after the appointed time to an event.**
Change 1 letter.

**2. Adorable, attractive.**
Take away 3 letters.

e x e c u t i v e

**The _____ branch is made up of the cabinet and the _____ of the United States.**

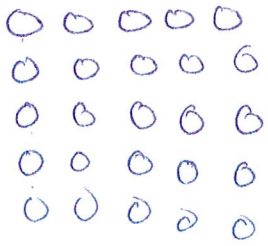
Unit: Expressions
Student Handout 1

Name _____

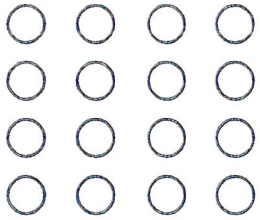
Date _____ Pd _____

# INTRO TO EXPONENTS

Draw an array to represent 5x5.



What does this picture represent?



**BASE**

- The base is the number being multiplied by itself.

Ex: $9^2$: 9 is the base; $6^4$: 6 is the base

**EXPONENT**

- The exponent determines the number of times the base is multiplied by itself.

Ex: $3^5$: 5 is the exponent; $2^7$: 7 is the exponent

- Any number raised to the 2 power is said to be Squared. * 3rd power is Cubed *

Use each term below to determine the base and the exponent.

| $3^4$ | $7^3$ | $9^2$ | $8^9$ | $12^0$ |
|---|---|---|---|---|
| base: 3 | base: | base: 9 | base: | base: 12 |
| exponent: 4 | exponent: | exponent: 2 | exponent: | exponent: 0 |

Complete the table below.

| TERM | BASE | EXPONENT |
|---|---|---|
| $5^3$ | 5 | 3 |
| $19^2$ | | |
| | 11 | 4 |

| TERM | BASE | EXPONENT |
|---|---|---|
| $16^4$ | | |
| $7^6$ | 7 | 6 |
| | 4 | 11 |

| | |
|---|---|
| **EXPANDED FORM** | • Expanded form shows the full multiplication of the base.<br>Ex: $6^3$ is written as $6 \cdot 6 \cdot 6$<br>$3^6$ is written as $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$ |
| **STANDARD FORM** | • When a number is raised to a power, or when the number is simplified, then it is called Standard form. (answer) |

Complete the table below.

| EXPONENT FORM | EXPANDED FORM | STANDARD FORM |
|---|---|---|
| $5^3$ | $5 \cdot 5 \cdot 5$ | 125 |
| $6^2$ | $6 \cdot 6$ | 36 |
| $7^3$ | | |
| $9^1$ | 9 | 9 |
| | $2 \cdot 2 \cdot 2 \cdot 2$ | |
| $4^3$ | | |
| | $3 \cdot 3 \cdot 3 \cdot 3$ | |
| $3^3$ | $3 \cdot 3 \cdot 3$ | 27 |
| $2^5$ | | |
| $4^4$ | | |
| $8^1$ | | |
| | $2 \cdot 2 \cdot 5 \cdot 5$ | |
| | $3 \cdot 3 \cdot 3 \cdot 3 \cdot 6 \cdot 6$ | |

Summarize today's lesson:

Unit: Expressions
Homework 1

Name _____

Date _____ Pd _____

# iNTRO TO EXPONENTS

Draw a line from each exponent form to the corresponding expanded form and standard form.

| EXPONTENT FORM | EXPANDED FORM | STANDARD FORM |
|---|---|---|
| 1. $3^4 \cdot 7^2$ | $3 \cdot 3 \cdot 3 \cdot 7 \cdot 7 \cdot 7$ | 3,969 |
| 2. $2^3 \cdot 3^2$ | $5 \cdot 5 \cdot 5 \cdot 7$ | 9,261 |
| 3. $5^3 \cdot 7^1$ | $3 \cdot 3 \cdot 3 \cdot 3 \cdot 7 \cdot 7$ | 648 |
| 4. $9^2 \cdot 2^3$ | $2 \cdot 2 \cdot 2 \cdot 3 \cdot 3$ | 875 |
| 5. $7^3 \cdot 3^3$ | $2 \cdot 2 \cdot 2 \cdot 9 \cdot 9$ | 72 |

6. Represent the number 108 in both exponent and expanded form.

Exponent Form: _____

Expanded Form: _____

7. Represent the number 256 in both exponent and expanded form.

Exponent Form: _____

Expanded Form: _____

8. Which of the following does not represent the value 216?

A. $36 \cdot 6$
B. $6^3$
C. $3^6$
D. $6 \cdot 6 \cdot 6$