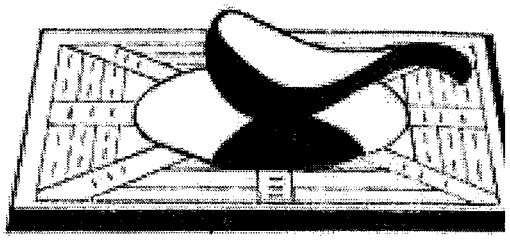
Cohen Middle School
100 Robinwood Avenue
Elmira Heights, NY 14903
734-5078

Name: _____ **Date: February 24, 2020**____

Math: Evaluating Expressions w/ Substitution nb 5:6 hmwk wksht. Show work on back
Social Studies: - **3 dynasties** - **Start Section IV** **HW: Compass/Gunpowder**
ELA: Daily Warm Up "A Blessing" for Read/Vocabulary HW: Article of the Week Due 2-28-20
Science • Use your Inv 4 NB to GRAPH Earth Materials Temperatures (line graph) • Finish for HW
Computer Apps/ Technology

Name: _____ edHelper

Chinese Inventions - Compass & Gunpowder



Have you ever had an idea that didn't quite turn out the way you intended? That "surprise" element is something inventors are very familiar with. A case in point is Leo Szilard (1898 - 1964), who patented the idea of a nuclear chain reaction in 1934. Though Leo Szilard came up with the idea and helped the U.S. government create the first atomic bomb, he was adamantly against using it on moral grounds. Despite his repeated pleas, the U.S. government dropped two atomic bombs on Japan in 1945 and ended World War II.

Leo Szilard was certainly neither the first nor the last inventor whose product was used in a way different from it initial design. Looking back in history, there are two Chinese inventions that fit the bill. They are the compass and gunpowder.

The earliest-known compass dates from China during the Warring States Period (475 B.C. - 221 B.C.) At the tim people used an instrument called "sinan" for fortune telling and other spiritual applications. A sinan consisted of two components. The first, top part was a spoon made of loadstone. The second, bottom part was a square bronze plate with markings pointing to twenty-four different directions. Because loadstone aligned with the Earth's natural magnetic field, the spoon's handle would always point to south when placed on the plate. The ancient Chinese quickly realized the potential application of this direction-finding device. So they began to work on improving its stability. The compass of later days had a magnetized needle on a round plate. Its first recorded use as a navigation tool on ships was during the Northern Song dynasty (960 A.D. - 1127 A.D.)

The invention of the compass was not well known to the rest of the world until Zheng He came along. Zheng He was a royal envoy of the Ming dynasty (1368 A.D. - 1644 A.D.) He made seven ocean voyages between 1405 and 1433. His Treasure Fleet, consisting of more than 30 ships and 30,000 men, went to places as far as today's Somalia in eastern Africa. Through his expeditions, Zheng He opened up trade routes for China, and he built diplomatic relations with other countries. And of course, through his expeditions, he showed the usefulness of a compass in marine navigation. Caught up by the idea, Christopher Columbus used a compass for his journey in 1492. He sailed from Spain and traveled west. After being at sea for about 70 days, he finally reached land. He thought the land was India, his final destination. But it was not. The land Christopher Columbus discovered was America!

Gunpowder is a mixture of sulfur, saltpeter, and charcoal. While the three ingredients are safe enough by themselves, the compound is not. If set on fire, the concoction can produce a powerful explosion. Chinese alchemists stumbled upon this combination in the 8th century as they experimented with ways to prolong life. Shortly after the discovery, the Chinese military began to use gunpowder in warfare. They made several new weapons. For example, they created rockets by launching gunpowder from bamboo tubes. They shot arrows tied with packets of igniting gunpowder.

Name: _____ edHelper

Gunpowder was introduced to the Arab world during the 13th century. Then, it made its way to Europe sometime during the 14th century. Ironically, though the Chinese invented gunpowder, they never fully utilized it to its potential. They restricted themselves to using it more for firework displays than for military combat. The Chinese's lack of interest in developing new applications for gunpowder was a costly mistake. When Europeans came to China in the 19th century demanding free trade, they attacked China with cannons and other weapons using -- what else?-- gunpowder!

Chinese Inventions - Compass & Gunpowder

Questions

_____ 1. What made the sinan work as a compass?

A. lodestone
B. bronze
C. the square shape of the plate
D. the shape of the spoon

_____ 2. What was the original purpose of the compass?

A. to prolong life
B. to cure illness
C. to tell fortunes
D. all of the above

_____ 3. When did Leo Szilard patent his idea of a nuclear chain reaction?

A. 1943
B. 1945
C. 1934
D. 1954

_____ 4. What dynasty was Zheng He from?

A. the Yuan dynasty
B. the Warring Period
C. the Ming dynasty
D. the Northern Song dynasty

_____ 5. When the Chinese created gunpowder, what were they hoping that it would do?

A. prolong life
B. find directions
C. kill enemies
D. tell fortunes

_____ 6. Which of the following about gunpowder is **INCORRECT**?

A. Gunpowder is a mixture of three ingredients -- saltpeter, charcoal, and sulfur.
B. The ancient Chinese called gunpowder "sinan."
C. Gunpowder was introduced to the Arab world during the 13th century.
D. Though the Chinese invented gunpowder, they didn't use it as extensively in the military as the Europeans.

Name: _____ edHelper

_____ 7. What Chinese dynasty had the first written record of using the compass on ships?

A. the Northern Song dynasty
B. the Northern Qi dynasty
C. the Northern Wei dynasty
D. the Northern Zhou dynasty

_____ 8. How many directions could a sinan point out?

A. 28
B. 24
C. 20
D. 48

Name_____ Class Period____

ELA 6 WARM UP
Week of 2/24/20 **Be a learner not a finisher.**

Monday Mistakes

Correct the sentence and rewrite it below: **Carmen my friend who loves music even more than chocolate had a iPod surgically inplanted in her brain.** (2 missing punctuation mark, 1 wrong word, 1 spelling error.)

_____

_____

_____

Tuesday Terms

Read the word and definition. Write a sentence that uses the word correctly and draw a quick sketch that will help you remember the word.

Word: **community**	Definition: **a group of people who live in the same area**
Sentence: _____ _____ _____ _____	Sketch:

Wednesday Word Ladder

Flip the paper over and complete the word ladder

Thursday Thoughts

"Speak when you are angry, and you will make the best speech that you will ever regret." – Ambrose Bierce

Write 2 to 3 sentences explaining what this quotation means.

_____

_____

_____

_____

Friday Figurative Language

Write a sentence that includes an example of personification. (Personification gives human characteristics to an animal, non-living object, or an idea. Example: My computer hates me.)

_____

_____

_____

_____

_____

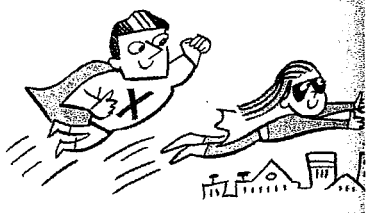
Name _____

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!

MATH

SUPERPOWERS



11. Salary was a _____ in my decision to change jobs.
Add 2 letters.

9. Front part of the head.
Change 2 letters.

7. A place equipped for scientific experimentation or research.
Take away 1 letter.

★ **5. Wood.**
Take away 1 letter.

3. You call this person to fix a water leak.
Add 3 letters.

★ **1. A column of smoke.**
Take away 3 letters (*i, l, t*), then rearrange.

Start Here

_ _ _ _ _ _

_ _ _ _

_ _ _ _

_ _ _ _

_ _ _

_ _ _ _

_ _ _ _ _ _

_ _ _ _ _ _ _

_ _ _ _ _ _ _

_ _ _ _

_ _ _ _ _

m u l t i p l e

10. A known truth.
Change 1 letter.

8. Antonym of *early*.
Take away 1 letter, then add 2.

6. A baby sheep.
Change the first vowel, then take away 2 letters.

4. To sleep.
Change 1 letter.

2. A purple fruit.
Take away 1 letter.

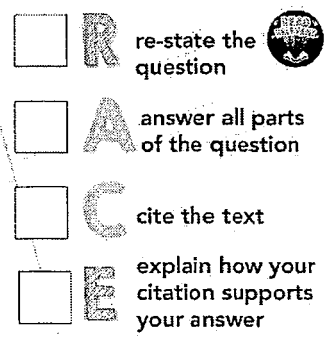
You multiply _____s to get an answer; the answer is a _____of the numbers you multiplied.

Article of the Week Name _____

Due February 28, 2020 Period _____

Directions: After **reading** the attached article, please **respond** to the following prompt. ***Remember to use*** *the* ***RACE strategy*** *(Restate, Answer, Cite, and Explain) and* ***provide 2 details*** *from the article.*

Describe what you think the author's purpose was for writing this text and whether they were successful in this purpose. Support your response with specific details from the text.



RACE Rubric for Short Answer Questions

	4	3	2	1
R Restate the Question	Restated the question completely	Restated almost all parts of the question	Attempted to restate the question, but was unsuccessful	Did not restate the question at all
A Answer the Question	Considered all parts of the question and answered each part accurately	Considered all parts of the question but had only partial accuracy	Missed part of the question	Did not answer the question at all
C Cite evidence from the text	Properly cited adequate evidence from the text that supported the answer	Cited evidence loosely related to the answer	Evidence used was either not relate to the question, or not correctly cited	No evidence from the text was used
E Elaborate Make connections Explain further	Made a connection with the text and clearly explained its relationship to the question	Made a connection to the text, but was unable to explain its relationship to the text clearly	Attempted to make a connection to the text, but the relationship was weak	Did not make a connection to the text at all, element was not present

R: _____ A: _____ C: _____ E: _____ Total: _____ / 4 = Final Score: _____

Is this coyote friends with a badger? Video shows the two traveling together

By Joshua Bote, USA Today, adapted by Newsela staff on 02.13.20
Word Count **414**
Level **MAX**

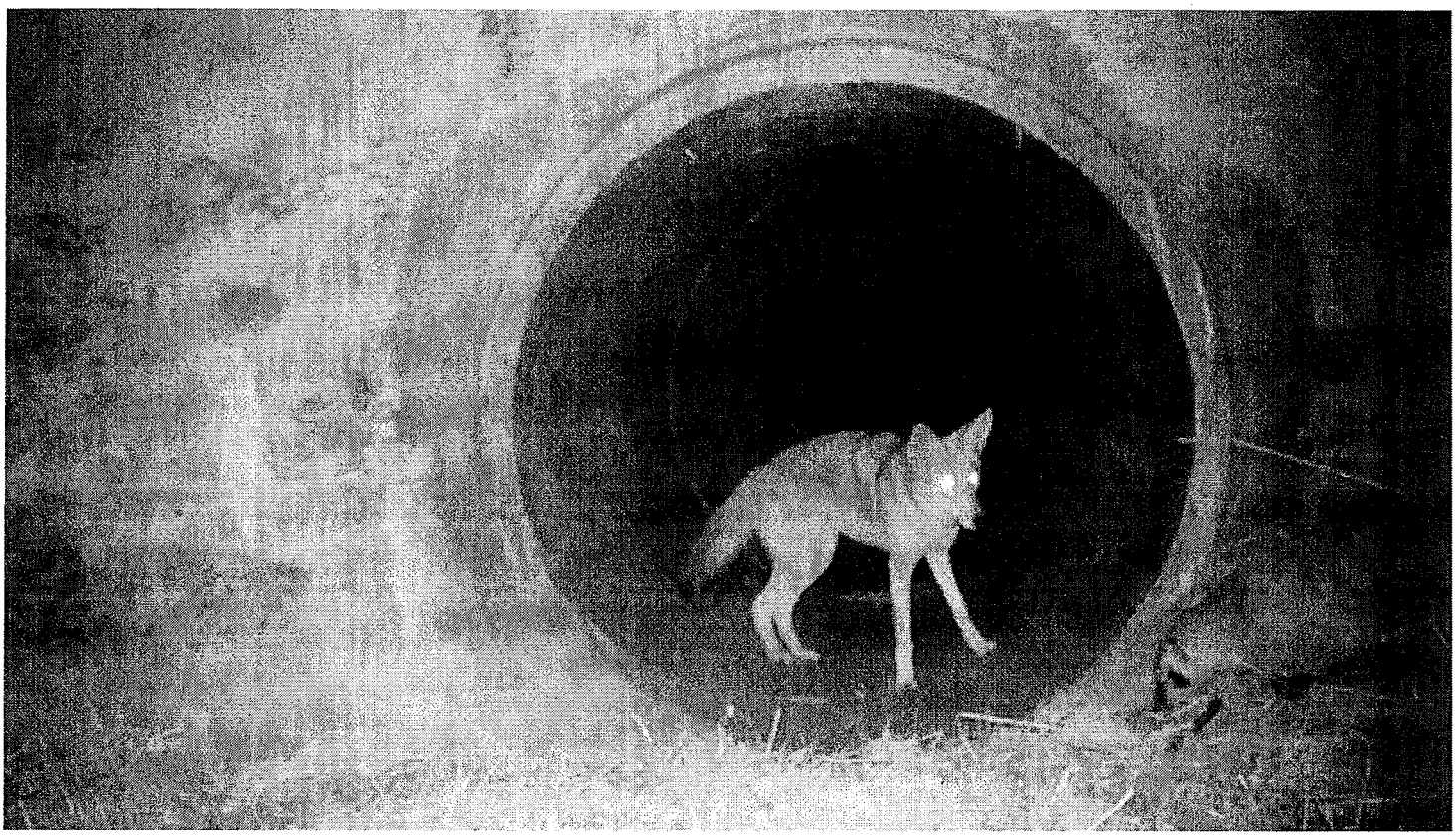


Image 1. An unlikely friendship between a coyote (left) and a badger (right) was captured in a wildlife video as they traveled together around the San Francisco Bay Area in California. Scientists have found both species benefit by hunting together. Image: Peninsula Open Space Trust (POST)/Pathways for Wildlife

An unexpected animal pairing was spotted traveling through a tunnel in the Bay Area in California. The coyote and badger might have been hunting together, experts said.

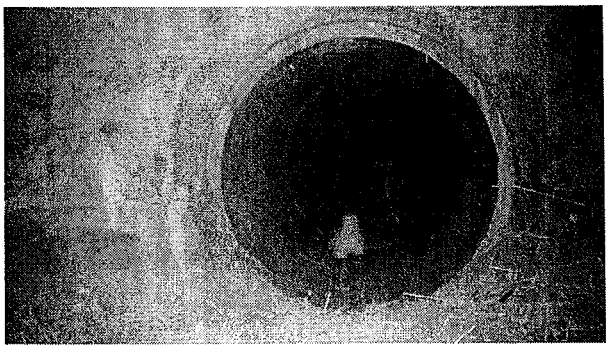
The duo was captured on video moving through a culvert under a highway. A culvert is a drainage tunnel. The video was taken by the Peninsula Open Space Trust (POST). POST is a California-based organization. It works to conserve land around Northern California for wildlife.

In the footage, the coyote gives a play bow. A play bow is when a canine stretches its front legs out and leans on its elbows. Then the coyote hops around, waiting for its companion to follow. The badger trails not far behind as they walk into the tunnel.

According to POST, coyotes and badgers are great conspirators. Their respective skills work well together to make it easier to hunt prey. Prey includes ground squirrels and prairie dogs.

Such pairings have been documented by the U.S. Fish and Wildlife Service. POST noted that this is the first time the animals have been seen traveling through a man-made structure.

The organization said it's fairly rare to capture badgers on camera because they spend so much of their time underground.



The video is not only extremely adorable, it is also integral to conservation efforts. The remote sensor cameras that recorded this footage help gather data to find "areas of safe passage" in urban spaces filled with roads and highways.

"Habitat loss and fragmentation due to human development and roads is the greatest threat to coyotes and other native carnivores, second only to trapping and trophy hunting," said Kitty Block. Block is the president and CEO of the Humane Society of the United States.

The government estimates that about a million animals per day are killed by vehicles in America.

Coyotes, Block said, are "unfairly and cruelly slaughtered" in response to reports of aggressive behavior toward humans. The animals are usually afraid of people and approach only when they have been fed by a human, according to the Humane Society.

"Anyone who lives with a dog recognizes that play bow and can relate to this close cousin of man's best friend," Block said. "We hope this video will inspire people to treat coyotes with compassion instead of cruelty."

X | Y
Time | Temp (°c)

Science

Earth Material Temperatures Chart by: _____

Predict: Which material will heat up the fastest? _____ slowest? _____

X Y

Time	Sand		Soil		Water		Air	
2 minute intervals	Temp.	Temp. Change	Temp.	Temp. Change	Temp.	Temp. Change	Temp.	Temp. Change
	(original)		(original)		(original)		(original)	
Sun-up 0	20		20					
2	21		22					
4	22		23					
6	24		24					
8	25		26					
10	27		27					
12	27		27					
14	28		28					
16	29		28					
Sun down 18	29		28					
20	28		27					
22	26		27					
24	25		25					
26	24		25					
28			25					
30								

Grading Rubric for Earth Materials Graph

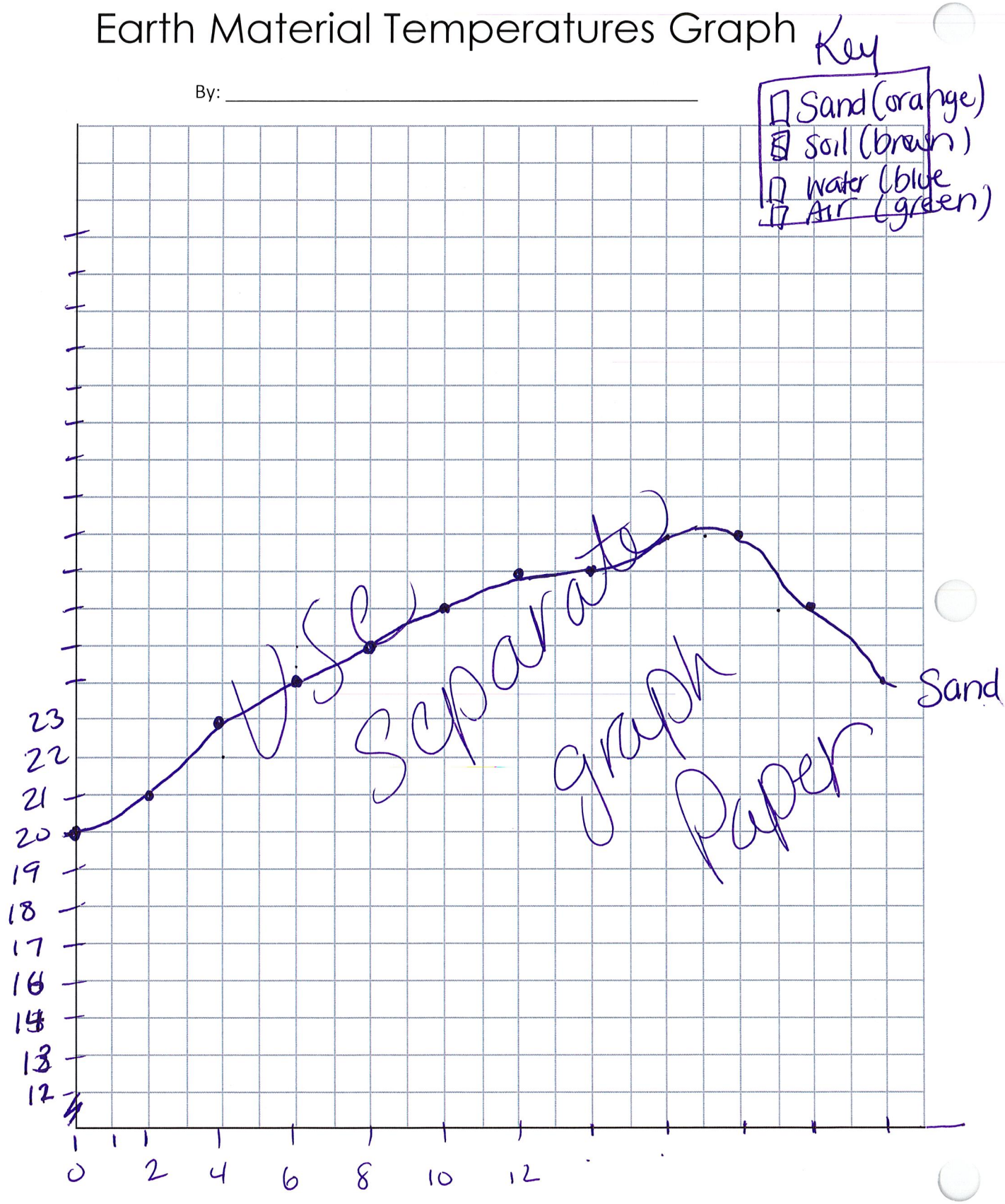
By: _____

Category	Description—How to earn the points	Point Value	Earned Points
ON TIME	YES OR NO	2	
Title	• Title matches the Data Chart, included First & Last NAME • Specific /Used capitalization	2	
X-axis label	• Independent Variable: **TIME, in Minutes** • Capitalization included.	2	
Y-axis label	• **Dependent Variable / Results**: **Temperature, °C** • Capitalization	2	
Scale	Use an appropriate scale for numbering. Use as much of the sheet as possible, evenly spaced • X-Axis: Started at Zero, counted by ____ up to _____ • Y-Axis; Started at Zero, counted by ____ up to _____	2	
Neatness, color Accuracy	• Lines are neat • Used color to match material • matches the key • 4 lines are drawn, match graph	4	
Key	Four colors are used; Graph matches key	2	
Analyzed & Explained	**R.A.C.E**: I answered and explained all parts of the focus question using (number) results of the experiment as my evidence **(page 9)**	4	
Score			

4 Lines

Earth Material Temperatures Graph

By: _____



Earth Material Temperatures Chart by: _____

Predict: Which material will heat up the fastest? _____ slowest? _____

Time	**Sand**		**Soil**		**Water**		**Air**	
2 minute intervals	Temp.	Temp. Change	Temp.	Temp. Change	Temp.	Temp. Change	Temp.	Temp. Change
	(original)		(original)		(original)		(original)	

Unit: Expressions
Homework 3

Name _____

Date _____ Pd _____

EVALUATING EXPRESSIONS

* Must show Work on back *

Match each correct answer to a letter and complete the riddle below.

1	$5x + 9y$, when $x=8$, $y=11$	$5x+9y$ $5(8)+9(11)$ $40+99$ (139)
2	$a^3 - c + b$, when $a=3$, $b=6$, $c=8$	
3	$4(g - h) + 10$, when $g=12$, $h=7$	
4	$42 - 5z + 3(x + y)$, when $x=4$, $y=9$, $z=7$	
5	$k^3 - 4j + 12$, when $k=8$, $j=2$	
6	$12a - 3b^2$, when $a=9$, $b=4$	
7	$11(d - c) + 3(c + d)$, when $c=6$, $d=9$	
8	$g^3 - h^2 + 8$, when $g=3$, $h=5$	
9	$100 - x^2 + 15$, when $x=9$	

A: 10	E: 45	R: 516	K: 46	B: 8
J: 17	I: 25	E: 105	J: 18	~~M: 139~~
H: 34	N: 97	T: 30	C: 60	S: 78

WHAT DO YOU GET IF YOU CROSS A MATH TEACHER AND A CLOCK?

					M						
8	5	2	3	9	1	8	3	2	6	4	7

2. $a^3 - c + b$
$3^3 - 6 + 8$

3.

4.

5.

6.

7.

8.

9.

Unit: Expressions
Student Handout 3

Name _____
Date _____ Pd _____

p.5

EVALUATING EXPRESSIONS

Use the key below to complete the joke.

WHAT'S THE KING OF THE PENCIL BOX?

THE RULER

KEY: R E T

Now, replace the following mathematical messages and evaluate them.

KEY: 24 8 4

$(24 \div 8) + 4 = 7$ 3 +4	$24 - (8 + 4) = 12$ 24-12

EVALUATING EXPRESSIONS

- When a letter stands in the place of a Number, it is called a Variable.
- A variable represents a Specific number in each expression

Evaluate the following expressions, if x=7, y=3, and z=2.

1. $x + (y+z)$
   7+(3+2)
   7+5
   12

2. $z(x) + y - z$
   2(7)+3-2
   14+3-2
   17-2
   15

3. $y^2 - z^2$ 3·3 2·2
   $3^2 - 2^2$
   9-4
   5

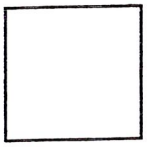
4. $7x + 5y$

5. $z^2 + 9y - 3x$

Evaluating expressions is commonly used when Substituting values into geometry formulas. P.16

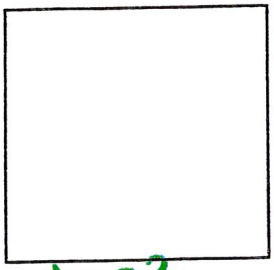
Use the formula $A = s^2$ to find the area of each of the squares below. Substitute the side length into s to represent the side length. Solve to find a, the area.

5 cm



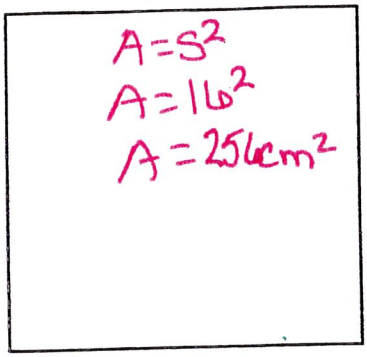
$A=S^2$
$A=5^2$
$A=25cm^2$

11 cm



$A=S^2$
$A=11^2$
$A=121cm^2$

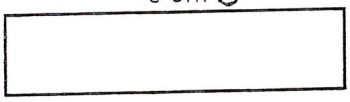
16 cm



$A=S^2$
$A=16^2$
$A=256cm^2$

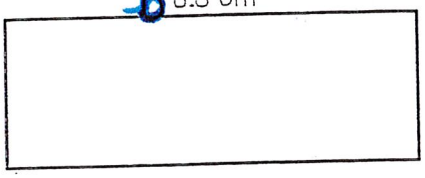
Use the formulas $V = lwh$ and $A = bh$ to complete the tables below by evaluating the expressions

6 cm b
h 2.7 cm

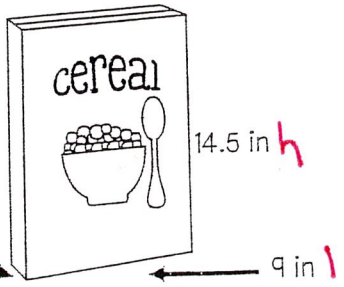


FORMULA	
EXPRESSION	
SOLVE	$16.2cm^2$

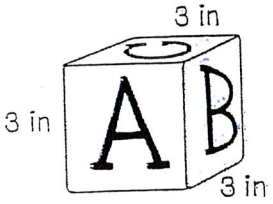
b 8.3 cm
4 cm h



FORMULA	$A=bh$
EXPRESSION	$8.3 \cdot 4$
SOLVE	$33.2cm^2$



FORMULA	$V=l \cdot w \cdot h$
EXPRESSION	$9 \cdot 3 \cdot 14.5$
SOLVE	$391.5 in^3$



FORMULA	
EXPRESSION	
SOLVE	$27 in^3$

Summarize today's lesson:

Unit: Expressions
Homework 3

Name _____

Date _____ Pd _____

EVALUATING EXPRESSIONS

* Must show Work on back *

Match each correct answer to a letter and complete the riddle below.

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