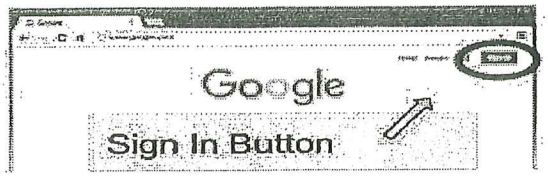
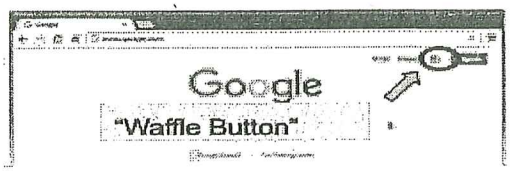
MCMS Educational Applications Login Information

How to Login to Google Classroom From Home:

1. Enter the URL www.google.com in the address bar at the top of the web browser. Note: Downloading and using the Google Chrome web browser will take you directly to the Google home screen.





2. Click on the Blue Sign in Button at the top right portion of the screen.
3. Enter your School Issued Login Credentials
4. Once you are signed in you can access all **Google Apps** including **Google Classroom** by clicking on the "waffle" button at the top right-hand side of the screen.

My Google Account Username is:

My Google Account Password is:

How to Login to Reading Plus From Home:

1. Enter the URL www.student.readingplus.com in the address bar at the top of the web browser.
2. If prompted, enter the **Site Code: rpmccre** in the space provided.
3. Enter your Reading Plus username and password in the boxes provided and hit sign-in.

My Reading Plus Username is:

My Reading Plus Password is:

How to Login to IXL from Home:

1. Enter the URL www.ixl.com/sigin in the address bar at the top of the web browser.
2. Enter your IXL username and password in the boxes provided and click sign-in.

My IXL Username is:

My IXL Password is:

How to Login to i-Ready from Home:

1. Enter the URL https://login.i-ready.com/ in the address bar at the top of the web browser.
2. Enter your i-Ready username and password in the boxes provided and click sign-in

My i-Ready Username is:

My i-Ready Password is:

For Google and/or Reading Plus assistance contact Mark Jones at mark.jones@mccreary.kyschools.us
For IXL assistance contact Sherry Durham at sherry.durham@mccreary.kyschools.us



MCMS
8th Grade
NTI Packet
Days 6 - 10

Excerpt from Martin Luther King Jr.'s Letter from the Birmingham City Jail

by Martin Luther King Jr.



You may well ask, Why direct action? Why sit-ins, marches, etc.? Isn't negotiation a better path?" You are exactly right in your call for negotiation. Indeed, this is the purpose of direct action. Nonviolent direct action seeks to create such a crisis and establish such creative tension that a community that has constantly refused to negotiate is forced to confront the issue. It seeks so to dramatize the issue that it can no longer be ignored. I just referred to the creation of tension as a part of the work of the nonviolent resister. This may sound rather shocking. But I must confess that I am not afraid of the word tension. I have earnestly worked and preached against violent tension, but there is a type of constructive nonviolent tension that is necessary for growth. Just as Socrates felt that it was necessary to create a tension in the mind so that individuals could rise from the bondage of myths and half-truths to the unfettered realm of creative analysis and objective appraisal, we must see the need of having nonviolent gadflies to create the kind of tension in society that will help men rise from the dark depths of prejudice and racism to the majestic heights of understanding and brotherhood. So the purpose of the direct action is to create a situation so crisis-packed that it will inevitably open the

door to negotiation. We, therefore, concur with you in your call for negotiation. Too long has our beloved Southland been bogged down in the tragic attempt to live in monologue rather than dialogue...

We must use time creatively, and forever realize that the time is always ripe to do right. Now is the time to make real the promise of democracy, and transform our pending national elegy into a creative psalm of brotherhood. Now is the time to lift our national policy from the quicksand of racial injustice to the solid rock of human dignity.

ReadWorks Perspectives of Prominent African Americans on the Civil Rights Movement - Paired Text Questions
Letter from Jackie Robinson on Civil Rights · Excerpt from Martin Luther King Jr.'s Letter from the Birmingham City Jail

Name: _____ Date: _____

Use the article "Excerpt from Martin Luther King Jr.'s Letter from the Birmingham City Jail" to answer questions 1 to 2.

1. According to Martin Luther King Jr., why does nonviolent direct action seek to create a crisis?

_____

_____

_____

2. Why does Martin Luther King Jr. think it is necessary to create "constructive nonviolent tension" in society?

_____

_____

_____

Use the article "Letter from Jackie Robinson on Civil Rights" to answer questions 3 to 4.

3. Jackie Robinson heard President Eisenhower suggest that black Americans must have patience. What did Jackie Robinson feel like doing when he heard this?

_____

_____

_____

4. The word "forbearance" means patient self-control. Why does Jackie Robinson feel that the President is crushing the spirit of freedom in African Americans by urging them to have forbearance? Use evidence from the text to support your answer.

Use the articles "Excerpt from Martin Luther King Jr.'s Letter from the Birmingham City Jail" and "Letter from Jackie Robinson on Civil Rights" to answer questions 5 to 6.

5. Both Jackie Robinson and Martin Luther King Jr. wrote letters that express their views on how to fight for equality for African Americans. How are their views similar? Use information from both letters to support your answer.

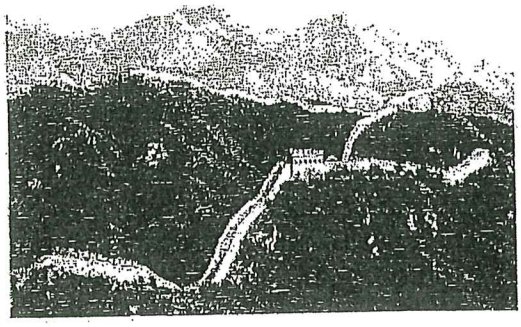
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6. Read this paragraph from Jackie Robinson's letter: "17 million Negroes cannot do as you suggest and wait for the hearts of men to change. We want to enjoy now the rights that we feel we are entitled to as Americans. This we cannot do unless we pursue aggressively goals which all other Americans achieved over 150 years ago." How might Martin Luther King Jr. respond to this statement? Use evidence from his letter to support your answer.

Shihuangdi the Wall Builder

This text is adapted from an original work of the Core Knowledge Foundation.

The first emperor of China, Shihuangdi, made many improvements in China. But he was also very cruel, and punished people who broke his laws. Even the emperor's own son was upset by this cruelty, and he told his father it was wrong to be so cruel. But Shihuangdi became angry at his son and sent him far away, all the way to the northern edge of China. He gave his son a job to keep him busy. He told him to supervise the construction of a series of walls in northern China.



Construction of the Great Wall of China began under the rule of Shihuangdi.

Some old walls were already standing. Shihuangdi wanted to connect some of these walls and build new ones. The wall building did not end with Shihuangdi. Later dynasties built more walls. The rulers of the Ming dynasty built the last and most elaborate ones. These Ming -dynasty walls are the ones that we usually think of as the Great Wall of China. But the work began many years earlier, and the Chinese honor Shihuangdi as the first great wall builder.

The Great Wall snakes through China's mountains and deserts for more than one thousand miles. Why in the world would anyone need such gigantic walls? Shihuangdi ordered the walls to be built to keep out the people who lived beyond the northern border of China.

The Europeans called these northern people the Huns; the Chinese called them the Xiongnu (/syoong*noo/). The Xiongnu were nomads, which means they had no permanent homes and moved from place to place. They moved around on their great herds of horses, riding like the wind. They wandered the open grasslands, called steppes (/steps/), in search of good grass for their horses to eat. When they found a place where they wanted to stay briefly, they would set up large tent-like houses called yurts that they could take down quickly when they were ready to move.

In contrast, the Chinese at that time led settled lives. Most of them were farmers who lived in the fertile valleys of the Huang He (/whang/huh/), or Yellow River, in the north and the Yangzi (/yang*see/) River farther south. They rarely left their farms and villages. To the settled Chinese, the nomadic Xiongnu seemed like barbarians.

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The Xiongnu were fierce warriors. They would mount their swift horses and swoop down on Chinese villages, raiding and stealing from the people who lived there. Shihuangdi was determined to protect China from these northern raiders, and so he started building walls.

He sent three hundred thousand soldiers and workers-including criminals who had to march hundreds of miles in chains-to the northern border. Many died on the way. Once they got there, there was no food. Half-starved, the men had to work anyway. Their work was the first movement towards what is known today as the Great Wall of China.

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Rosa Parks: 100th Birthday

by ReadWorks



100TH ANNIVERSARY OF THE BIRTH OF ROSA PARKS

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

On December 1, 1955, our Nation was forever transformed when an African-American seamstress in Montgomery, Alabama, refused to give up her seat on a city bus to a white passenger. Just wanting to get home after a long day at work, Rosa Parks may not have been planning to make history, but her defiance spurred a movement that advanced our journey toward justice and equality for all.

Though Rosa Parks was not the first to confront the injustice of segregation laws, her courageous act of civil disobedience sparked the Montgomery Bus Boycott -- 381 days of peaceful protest when ordinary men, women, and children sent the extraordinary message that second-class citizenship was unacceptable. Rather than ride in the back of buses, families and friends walked. Neighborhoods and churches formed carpools. Their actions stirred the conscience of Americans of every background, and their resilience in the face of fierce violence and intimidation ultimately led to the desegregation of public transportation systems across our country.

Rosa Parks's story did not end with the boycott she inspired. A lifelong champion of civil rights, she

NTI DAY 7 _____ NAME: _____ Class: _____

SOCIAL STUDIES-8TH GRADE

1. Who was the first emperor of China and what improvements were made under his lifetime?

2. How long is the Great Wall of China and why was it built?

3. Who were the HUNS?

4. What were the key differences between the Huns and Chinese people?

5. Do you think walls are a good idea to separate people? Why or Why Not?
   ***Discuss the wall proposed by President Donald Trump in your writing.

The Courage to Take Action: A Lesson from Rosa Parks

by ReadWorks



Speech by President Obama at Dedication of Statue Honoring Rosa Parks at the United States Capitol in Washington, D.C.

Mr. Speaker, Leader Reid, Leader McConnell, Leader Pelosi, Assistant Leader Clyburn; to the friends and family of Rosa Parks; to the distinguished guests who are gathered here today.

This morning, we celebrate a seamstress, slight in stature but mighty in courage. She defied the odds, and she defied injustice. She lived a life of activism, but also a life of dignity and grace. And in a single moment, with the simplest of gestures, she helped change America -- and change the world.

Rosa Parks held no elected office. She possessed no fortune; lived her life far from the formal seats of power. And yet today, she takes her rightful place among those who've shaped this nation's course. I thank all those persons, in particular the members of the Congressional Black Caucus, both past and present, for making this moment possible.

A childhood friend once said about Mrs. Parks, "Nobody ever bossed Rosa around and got away with it." That's what an Alabama driver learned on December 1, 1955. Twelve years earlier, he had kicked Mrs. Parks off his bus simply because she entered through the front door when the back door was too crowded. He grabbed her sleeve and he pushed her off the bus. It made her mad enough, she would recall, that she avoided riding his bus for a while.

And when they met again that winter evening in 1955, Rosa Parks would not be pushed. When the driver got up from his seat to insist that she give up hers, she would not be pushed. When he threatened to have

continued to give voice to the poor and the marginalized among us until her passing on October 24, 2005.

As we mark the 100th anniversary of Rosa Parks's birth, we celebrate the life of a genuine American hero and remind ourselves that although the principle of equality has always been self-evident, it has never been self-executing. It has taken acts of courage from generations of fearless and hopeful Americans to make our country more just. As heirs to the progress won by those who came before us, let us pledge not only to honor their legacy, but also to take up their cause of perfecting our Union.

NOW, THEREFORE, I, BARACK OBAMA, President of the United States of America, by virtue of the authority vested in me by the Constitution and the laws of the United States, do hereby proclaim February 4, 2013, as the 100th Anniversary of the Birth of Rosa Parks. I call upon all Americans to observe this day with appropriate service, community, and education programs to honor Rosa Parks's enduring legacy.

IN WITNESS WHEREOF, I have hereunto set my hand this first day of February, in the year of our Lord two thousand thirteen, and of the Independence of the United States of America the two hundred and thirty-seventh.

BARACK OBAMA

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Legacy of Rosa Parks - Paired Text Questions
Rosa Parks: 100th Birthday · The Courage to Take Action: A Lesson from Rosa Parks

Name: _____ Date: _____

Use the article "Rosa Parks: 100th Birthday" to answer questions 1 to 2.

1. In 1955, Rosa Parks refused to give up her seat on a city bus to a white passenger. What did her defiance spur?

2. Why might President Obama have called Rosa Parks a "genuine American hero" in this speech? Support your answer using key details from the text.

Use the article "The Courage to Take Action: A Lesson from Rosa Parks" to answer questions 3 to 4.

3. President Obama delivered this speech to dedicate a statue of Rosa Parks at the United States Capitol. According to his speech, why does this statue belong in the hall?

4. The speech says, "A childhood friend once said about Mrs. Parks, 'Nobody ever bossed Rosa around and got away with it.'" How is this quote supported in the rest of the text?

Use the articles "The Courage to Take Action: A Lesson from Rosa Parks" and "Rosa Parks: 100th Birthday" to answer questions 5 to 6.

5. Compare how Rosa Parks is portrayed in both texts. In your comparison, make sure to pay attention to the language that is used to describe Rosa Parks and her actions.

6. Both texts were speeches given by Barack Obama. Determine Obama's attitude toward Rosa Parks using key words and phrases from both texts.

her arrested, she simply replied, "You may do that." And he did.

A few days later, Rosa Parks challenged her arrest. A little-known pastor, new to town and only 26 years old, stood with her -- a man named Martin Luther King, Jr. So did thousands of Montgomery, Alabama commuters. They began a boycott -- teachers and laborers, clergy and domestics, through rain and cold and sweltering heat, day after day, week after week, month after month, walking miles if they had to, arranging carpools where they could, not thinking about the blisters on their feet, the weariness after a full day of work -- walking for respect, walking for freedom, driven by a solemn determination to affirm their God-given dignity.

Three hundred and eighty-five days after Rosa Parks refused to give up her seat, the boycott ended. Black men and women and children re-boarded the buses of Montgomery, newly desegregated, and sat in whatever seat happen to be open. And with that victory, the entire edifice of segregation, like the ancient walls of Jericho, began to slowly come tumbling down.

It's been often remarked that Rosa Parks's activism didn't begin on that bus. Long before she made headlines, she had stood up for freedom, stood up for equality -- fighting for voting rights, rallying against discrimination in the criminal justice system, serving in the local chapter of the NAACP. Her quiet leadership would continue long after she became an icon of the civil rights movement, working with Congressman Conyers to find homes for the homeless, preparing disadvantaged youth for a path to success, striving each day to right some wrong somewhere in this world.

And yet our minds fasten on that single moment on the bus -- Ms. Parks alone in that seat, clutching her purse, staring out a window, waiting to be arrested. That moment tells us something about how change happens, or doesn't happen; the choices we make, or don't make. "For now we see through a glass, darkly," Scripture says, and it's true. Whether out of inertia or selfishness, whether out of fear or a simple lack of moral imagination, we so often spend our lives as if in a fog, accepting injustice, rationalizing inequity, tolerating the intolerable.

Like the bus driver, but also like the passengers on the bus, we see the way things are -- children hungry in a land of plenty, entire neighborhoods ravaged by violence, families hobbled by job loss or illness -- and we make excuses for inaction, and we say to ourselves, that's not my responsibility, there's nothing I can do.

Rosa Parks tells us there's always something we can do. She tells us that we all have responsibilities, to ourselves and to one another. She reminds us that this is how change happens -- not mainly through the exploits of the famous and the powerful, but through the countless acts of often anonymous courage and kindness and fellow feeling and responsibility that continually, stubbornly, expand our conception of justice -- our conception of what is possible.

Rosa Parks's singular act of disobedience launched a movement. The tired feet of those who walked the dusty roads of Montgomery helped a nation see that to which it had once been blind. It is because of these men and women that I stand here today. It is because of them that our children grow up in a land more free and more fair, a land truer to its founding creed.

And that is why this statue belongs in this hall -- to remind us, no matter how humble or lofty our positions, just what it is that leadership requires; just what it is that citizenship requires. Rosa Parks would have turned 100 years old this month. We do well by placing a statue of her here. But we can do no greater honor to her memory than to carry forward the power of her principle and a courage born of conviction.

May God bless the memory of Rosa Parks, and may God bless these United States of America.

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The United States Constitution

by Susan LaBella



The United States Constitution is the highest law in the nation. It is the set of rules that Americans live by.

In 1787, a group of Americans did not like how their new country's government worked. They sat down to write new rules for the government. Among those men were Ben Franklin and George Washington.

The men met at Independence Hall in Philadelphia, Pennsylvania, during a hot summer. Sometimes they had disagreements. They had to work hard to solve those disagreements. When they finished, they had written the country's Constitution. Next, the Constitution had to be approved by the states. After a few years, the states voted in favor of the Constitution. It was now the law of the land.

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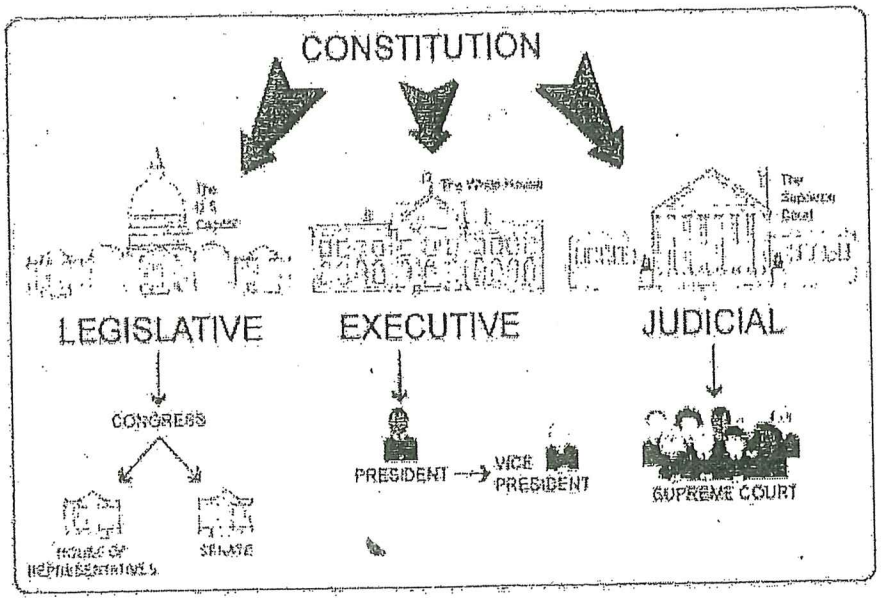
According to the Constitution, an election for president must be held every four years. The Constitution also says that the United States must have a Congress and a Supreme Court. Congress makes laws. The Supreme Court decides if laws are correctly written and followed.

The Constitution promises important rights to the American people. These include the right to believe what you wish and the right to say what you believe. These promises are listed in the part of the Constitution known as the Bill of Rights.

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The Three Branches of Government

by ReadWorks



The United States Constitution was written over two hundred years ago. It explains how the United States government should work. The people who wrote the Constitution did not want one person or group to have too much power. That was why they divided the government into three parts, known as branches.

The branches are the legislative, the executive, and the judicial. Each branch has its own responsibilities. The branches work together, but they also check each other to make sure no branch has too much power.

The legislative branch includes the United States Congress. Congress is made up of the House of Representatives and the Senate. Voters in each state elect their representation in the House and their senators. Those men and women go to Washington, D.C., to make laws.

The executive branch has the power to carry out the laws. It includes the president, the vice president, and their group of advisers called the Cabinet.

Every four years, Americans vote to elect a president and a vice president.

The judicial branch decides on the meanings of the laws and whether laws break the rules of the Constitution. This branch includes the United States Supreme Court. Nine justices serve on the Supreme Court. The president appoints the justices, and the Senate approves them. The justices' job is to decide if the country's laws go against the Constitution.

Name: _____ Date: _____

Use the article "The United States Constitution" to answer questions 1 to 2.

1. According to this text, why did a group of Americans write new rules for the government in 1787?

2. What is the Bill of Rights?

Use the article "The Three Branches of Government" to answer questions 3 to 4.

3. Why did the people who wrote the Constitution divide the government into three parts?

4. Give an example from the text of how one branch of government can affect another branch.

Use the articles "The Three Branches of Government" and "The United States Constitution" to answer questions 5 to 6.

5. Based on the information in these two texts, describe what was most important in a government to the writers of the Constitution. Make sure to include information from both texts in your answer.

6. Think about the rules and rights that Americans put into the Constitution for their new government. Based on those rules and rights, make an inference about the government that controlled America before the Constitution was written.

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On a separate piece of paper, please answer each of the following. Show all work and return on the first day back to school in order to receive full credit.

8th Grade Math NTI Day 6

Write an equation with the slope of -3 and a y-intercept of 9.

Write and solve an equation:
You have $16 and a coupon for a $5 discount at a local supermarket. A bottle of olive oil cost $7. How many bottles of olive oil can you buy?

Evaluate: $\sqrt[3]{27}$

Identify the slope:

$$y = -\frac{2}{3}x - 12$$

What is the length of leg a if leg b is 28 cm and the hypotenuse is 53 cm?

Which of the following numbers cannot be rewritten as a fraction?

$\sqrt{8}$ 6.2 $3\frac{5}{7}$ $\sqrt{49}$ 5

Convert 92% to a fraction and simplify.

Solve for x:

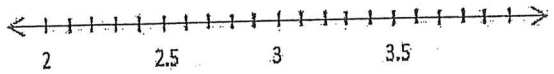
$$x + 9 + 7x = 73$$

Place the following numbers on the number line.

$(A) 2.97,$ $(B) 3\frac{1}{2},$

$(C) \sqrt{9},$ $(D) 2.\overline{36},$

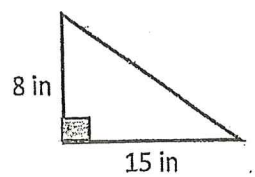
$(E) \sqrt{11}$



Find the slope of the line that contains the points in the table below.

x	y
-1	3
0	1
1	-1
2	-3
3	-5

Find the perimeter of the triangle.



Write and solve an equation:
After paying $14.75 for a pizza, Mary has $33.00. How much money did she have before buying the pizza?

On a separate piece of paper, please answer each of the following. Show all work and return on the first day back to school in order to receive full credit.

8th Grade Math NTI Day 7

Write and solve an equation:
Sara finds wrapping paper in packages of 6 rolls for $20.50. What is the cost of one roll in the package?

How many solutions does the following equation have—one, none, or many?
$2x - 9 = 2(x + 4)$

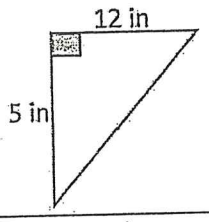
Between which two integers is the $\sqrt{68}$?

Identify the slope and y-intercept of the line below:
$y = -\frac{5}{2}x - 1$

Find the slope through the coordinates:

(9,6) and (-7,3)

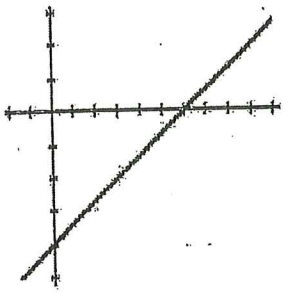
Find the length of the missing side.



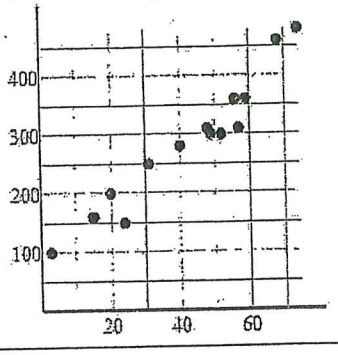
Solve for x:
$7x - 14 = 49$

Convert $\frac{4}{5}$ to a decimal.

Write a linear equation for the graph.



What would be a good prediction for the value of y when x is 64?



As a bowl of soup sits on the counter, the temperature decreases. If a scatter plot where made to represent the time the soup was placed in the bowl(x) and its temperature(y), what relationship would be seen?

Identify the y-intercept:
$y = \frac{1}{3}x$

On a separate piece of paper, please answer each of the following. Show all work and return on the first day back to school in order to receive full credit.

8th Grade Math NTI Day 8

Is x = 9 the solution for this equation?

$$2x + 11 = 28$$

Write and solve an equation:
When 12 is subtracted from 3 times a number, the result is 24. Find the number.

Between which two integers is $\sqrt{20}$?

Solve for w:

$$6w - 9 = 39$$

Write the equation in slope-intercept for a line that has a slope of $-\frac{3}{2}$ and contains (0, –2).

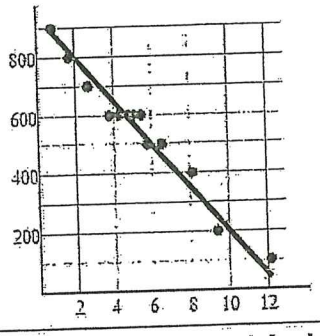
Describe the slope of a horizontal line.

Graph:

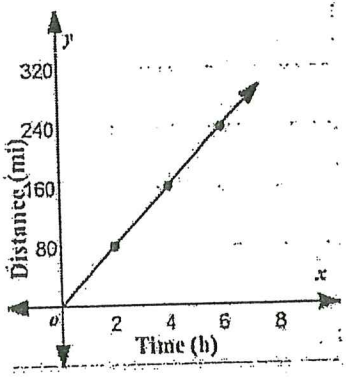
$$y = -\frac{2}{3}x - 1$$

If you solve an equation and get a false statement, there is _____ _____.

Does this graph show a line of best fit for the data shown in the scatter plot below?



Find the slope, or rate of change, for the graph to the right.



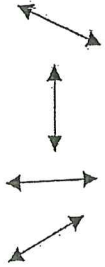
Match the description with the line it best describes:

Positive

Negative

Undefined

Zero



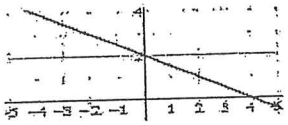
Write and solve an equation:
Rebecca went to the mall and spent $69.82 on shoes. When she left she had $30.00 in her purse. How much money did she start with?

On a separate piece of paper, please answer each of the following. Show all work and return on the first day back to school in order to receive full credit.

8th Grade Math NTI Day 9

Which of the following best describes the slope of the graph:

a. Positive
b. Negative
c. Undefined
d. Zero



Write and solve an equation:
Kelsie wants to drive 500 miles in 10 hours. What speed (miles per hour) must she average for the trip?

Estimate to nearest tenth: $\sqrt{95}$

What is the length of the leg b if leg a is 7 cm and the hypotenuse is 25 cm?

Write the linear equation in slope-intercept form that passes through:

(0,4) and (-2,1)

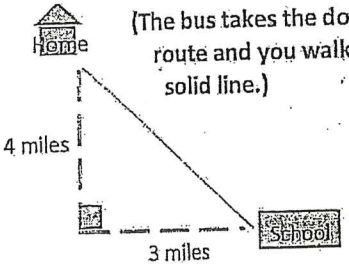
Determine how many solutions the following equation would have:

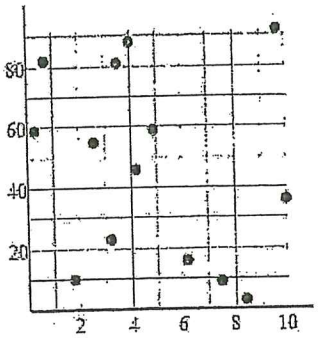
$$2g + 4 = 2g - 4$$

Convert to percent:
0.84

Between which two integers is $\sqrt{134}$**?**

What is the difference between the distances traveled to school?





Describe the relationship between the x and y axis in the scatter plot.

Describe the slope of the line that passes through: (-5, 3) and (7, 3).

Which inequality symbol should be placed in the circle to make the following statement true:

$$-\frac{13}{3} \bigcirc -\sqrt{20}$$

On a separate sheet of paper, please answer the following extended response. Show all work, respond using full sentences, and return on the first day back to school in order to receive full credit.

8th Grade Math NTI Day 10

In health class, you found out that the walking you do to get from one class to the other burns 117 calories. Your teacher asks you to select a physical activity to do this evening and then calculate your total calories burned for the day. You chose to ride your bike at a moderate pace which burns 472 calories per hour. In total, you found that you burned 707 calories for the day.

A. Write an equation to show how you would find the number of hours you spent riding your bike.

B. Solve the equation you wrote in Part A.

C. If you rode your bike for half an hour, how many calories would you have burned?

8th Grade
Science
Day6

Selection 12 — Subject: Science
Theme: What is the Biggest?

THE BIGGEST RIVER

ABOUT THE PASSAGE

Which is the biggest river?

(a) The Amazon
(b) The Mississippi
(c) The Nile
(d) The Yangtze

REASON FOR READING

This passage gives a good deal of information. See how many facts and details you can remember.

READ THE PASSAGE

Do you know which river is the longest in the world? It is the Nile. This great African river flows from south to north in an almost straight line from its source in Lake Victoria to the point where it empties its waters into the Mediterranean Sea, a distance of over four thousand miles (6,436 kilometers). The main river is called the White Nile, but it has an important **tributary**, the Blue Nile, which rises in Ethiopia in northeast Africa and joins the main river near the city of Khartoum in the Sudan.

The banks of these two rivers are the home of many kinds of peoples, from the Arabs of the North, to the tiny Pygmies* of the South, from the tall Ethiopians of the highlands of the Northeast, to the Nubian Nomads.** Crocodiles swim in the Nile, and hippopotami wallow in its swamps. Elephants trumpet by its upper reaches, and camels **wend** their way across sandy deserts to drink their fill from its wafers. In Egypt, the gentle, northerly winds fill the tall sails of the feluccas (boats), helping them on their way upstream.

Where the river flows into the Mediterranean Sea, it divides into seven channels. Many of these are no longer navigable, because they are now silted up. The fan-shaped deposit of silt has given the name "delta" to the river mouth. The Greek letter for "D" is (delta). If you look at the map, you will see the resemblance.

The Nile has been a source of life for countless generations. The ancient Egyptians called their country the "gift of the river," because the river's yearly floods brought down the rich, **alluvial** soil in which they grew their food; without the river they would have starved.

Today the Nile yields even more benefits to the economy of Egypt. In 1970, the Aswan High Dam was built across the Nile. Costing $1,000,000,000, it caused the **relocation** of ninety thousand Egyptian Fellahim (peasants) and Sudanese Nubian nomads, and the costly transfer of the famous Nubian temple complex of Abu Simbel. But for the first time in history, it enabled people to control the annual floods. Former summer-irrigated lands were converted to year-round irrigation. Thousands of new acres were converted into productive land. The **reservoir**, which is 14 miles wide, also created a fishing industry, while generating much needed electrical power.

The dam, however, was not built without **controversy**. Some felt that in the long run the land would be affected by the lack of alluvial soil that would be blocked by the dam, while others complained that coastal fishing grounds would be hurt. But perhaps most important, it was opposed because of its impact on the very existence and way of life of the Egyptian people. For centuries, their lives had been centered around, and governed by, the **fluctuations** of the Nile. Religious rituals, work and pleasure were all tuned to the rhythms of the floods. Even the seasons were named after them — spring being called "time of the first flood."

* Pygmies are groups of peoples living in different parts of Africa who grow to be 4–5 feet tall.

** Nomads are people who move from place to place.

Whatever controversies there may be, however, the Nile flows on. What effects the dam may have in the years to come may be unclear, but one thing is certain; the Nile will surely remain the longest river in the world.

The Nile is the biggest river only in terms of length, though. It is comparatively narrow. The Amazon River in South America contains as much water as the Nile, the Yangtze River in China, and the Mississippi put together!

THINKING IT OVER

(1) Which is the longest river in the world? _____

(2) In what continent does it flow? _____

(3) Where does the river start and end? _____

_____

STUDYING THE PASSAGE

(1) Find the Main Idea: Choose one.
- (a) Traces the path of the biggest river from its source to its end.
- (b) Describes the people who live on the banks of the biggest river.
- (c) Describes the creatures who live in and near the biggest river.
- (d) Traces the geography of the biggest river and its effects on the life around it.

(2) Find the Facts: Mark each one *true* or *false*.
- (a) The Nile flows from south to north. ____
- (b) The main river is called the Yellow Nile. ____
- (c) The river banks are the home of the Nubian nomads. ____
- (d) The ancient Egyptians called their country, the "Land of the Long River." ____
- (e) Many people lost their homes when the dam was built. ____
- (f) The dam enabled people to control the floods. ____
- (g) Everyone wanted the dam built. ____
- (h) Future effects of the dam are still unknown. ____

(3) Find the Order: Number the following in the order in which they appear in the passage.
- (a) But whatever the controversies may be, the Nile flows on. ____
- (b) In 1970 the Aswan High Dam was built. ____
- (c) The dam was not built without controversy. ____
- (d) Where the river flows into the Mediterranean, it divides into seven channels. ____
- (e) It has an important tributary, the Blue Nile. ____
- (f) Without the river they would have starved. ____
- (g) The banks of these two rivers are the homes of many kinds of people. ____
- (h) Former summer-navigated lands were converted to year-round irrigation. ____

(4) Go Beyond the Facts: Choose one.
- (a) Many Africans are afraid of the biggest river.
- (b) Many Africans could not survive without the biggest river.
- (c) The water of the biggest river is too polluted for people or animals to drink.
- (d) The biggest river cannot be navigated. ____

(5) Determine the Writer's Style: Which *two* of the following are true?

(a) The main idea is developed by the introduction of facts.
(b) Each paragraph contains facts on a particular aspect of the Nile.
(c) A story is included.
(d) A comparison is made

USING THE WORDS

(1) Words and Their Meanings: In the passage find the boldface words for these definitions.

_____ (a) movement to a new place, location

_____ (b) argument or debate

_____ (c) made up of sand or clay washed down by flowing water

_____ (d) a place where something, especially water, is collected

_____ (e) rising and falling movements

_____ (f) to direct one's course; to go

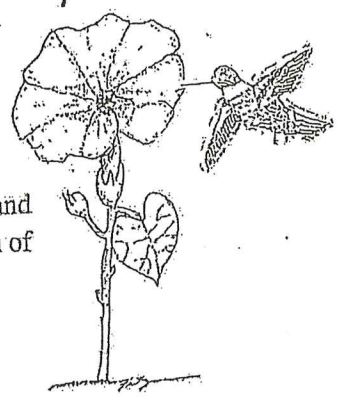
_____ (g) a stream or river that flows into a larger one.

(2) Write a paragraph using 3 of the words from the list above.

8th Grade
Science
Day 7

Selection 17—Subject: Science
Theme: World in the Sky

A REMARKABLE BIRD



ABOUT THE PASSAGE

There is only one bird who can fly backwards and can maneuver in the air like a helicopter. Which of the following do you think it is?

(a) An eagle
(b) A pigeon
(c) A dove
(d) A hummingbird

REASON FOR READING

This is a challenge. See if you can read the passage in three minutes, and at the same time, remember all the details. Answer the questions and then reread the passage to see how you did.

READ THE PASSAGE

A helicopter can move almost straight up and down, backward and forward, and even hover in the sky—so can the hummingbird. This tiny, remarkable bird can perform these same maneuvers because of its wing structure.

A hummingbird's wing structure is quite different from that of most birds. With extremely large muscles for its size, the wing as a whole is almost rigid, with little movement at the "wrist" and "elbow." Attached to the shoulder by a swivel joint, the whole wing acts like a helicopter's rotor, except it **sculls** back and forth instead of whirling. The wings move so fast—up to fifty times a second or more if the bird is hovering—that they produce the humming sound that gives the bird its name.

These **aerial** maneuvers are important to the hummingbird because it must hover in front of a flower to suck the nectar and feed on the insects inside, and it must go backward in order to leave the flower. When it flies backwards, which no other bird can do, it goes with a downward scoop of the tail and a reversal of the wings on the swivel joint.

No other bird is as efficient as the hummingbird at the delicate art of nectar feeding. It **deftly** probes the flower with its slender, needlelike bill, which varies in size and curvature according to the size and shape of the flower it favors. It reaches for its food with a long **extensible** tongue. The hummingbird has to eat continually since it uses up so much energy with its quick movements. It eats between fifty and sixty times a day! It would need to eat even more often if it did not conserve its energy, and thus its food supply, by sleeping so soundly at night that it almost hibernates. If humans ate as much for their weight as the hummingbird, a person would be eating the equivalent of 275 pounds of hamburger a day! In addition, a person expending energy at the rate of a hovering hummingbird would have to evaporate about 100 pounds of perspiration an hour to keep the skin temperature below the boiling point of water!

The hummingbird family contains the smallest of all birds. They vary in size from 2¼ inches to 8½ inches in length. Males are slightly smaller than females. There are 300 different species, all of whom are found in the Western Hemisphere. The majority inhabit tropical South America, but they can be found all the way up to Alaska.

Most hummingbirds are brightly colored; often they are an **iridescent, metallic** green. The throat of the male is usually a shining ruby, blue, or emerald green. Males are slightly smaller than females and fiercely **territorial.** The male **flaunts** its vivid colors and puts on a show of fancy flying to get the attention of the female during courting time. After mating, the female builds a nest with plant fibers, using spider webs as thread. For camouflage, she covers the nest with plants called lichens (lie-kens). She lays two white pea-sized eggs. In two weeks two featherless babies emerge. They learn to fly and thus continue the life cycle of these remarkable birds.

THINKING IT OVER

(1) What makes a hummingbird hum? _____

(2) How much hamburger would a person have to eat per day to equal a hummingbird's daily food intake?

_____

(3) Why is the hummingbird the most efficient bird at nectar feeding? _____

_____

_____

_____

STUDYING THE PASSAGE

(1) Find the Main Idea: Choose one.
- (a) A day in the life of a hummingbird.
- (b) How hummingbirds are different from other birds.
- (c) The characteristics of hummingbirds. ____
- (d) Why hummingbirds have their name.

(2) Find the Facts: Mark each one *true* or *false*.
- (a) A hummingbird's wing structure is different from that of most other birds. ____
- (b) The hummingbird's wings are very flexible enabling them to move easily. ____
- (c) The hummingbird lives on nectar and small insects. ____
- (d) The hummingbird expends an enormous amount of energy. ____
- (e) The hummingbird is the smallest bird in the world. ____
- (f) There are very few hummingbird species. ____
- (g) The males are smaller than female hummingbirds. ____
- (h) The female lays two pea-colored eggs.

(3) Find the Order: Number the following in the order in which they appear in the passage.
- (a) In two weeks two featherless babies emerge. ____
- (b) To keep the skin temperature below the boiling point of water! ____
- (c) The male flaunts its vivid colors. ____
- (d) The majority inhabit tropical South America. ____
- (e) It must go backwards in order to retreat from the flower. ____
- (f) The hummingbird has to eat continually. ____
- (g) It has extremely large wings for its size. ____
- (h) It deftly probes the flower.

(4) Go beyond the Facts: Which one of the following people has eating habits most like the hummingbird's?
- (a) John, who skips breakfast, has a big lunch and just a salad for dinner.
- (b) Kimura, who has a big breakfast, a soft drink and a sandwich for lunch, and usually a pizza for dinner.
- (c) Alfonso, who grazes, eating a little as often as he can.
- (d) Felipe, who eats three big meals a day at breakfast, lunch, and dinner. ____

(5) Determine the Writer's Style and Technique: In which two of the following would this passage most likely be found?
- (a) A scientific manual.

(b) A scientific magazine.
(c) The diary of a scientist.
(d) A lesson given by a science teacher.

USING THE WORDS

(1) Words and Their Meanings: Find the boldfaced word for these definitions.

_____ (a) quickly, but surely; skillfully

_____ (b) of, or in, the air

_____ (c) shows off in a bold way

_____ (d) pushes or drives forward; propels

_____ (e) like metal

_____ (f) capable of becoming longer

_____ (g) of territory or land; of, or limited to, a certain area

_____ (h) showing many colors that keep shifting and changing

(2) Write a paragraph using three of the words from the list above.

Lesson 7

Structure of Earth

8th Grade Science Day 8

SC-07-2.3.2



Getting the Idea

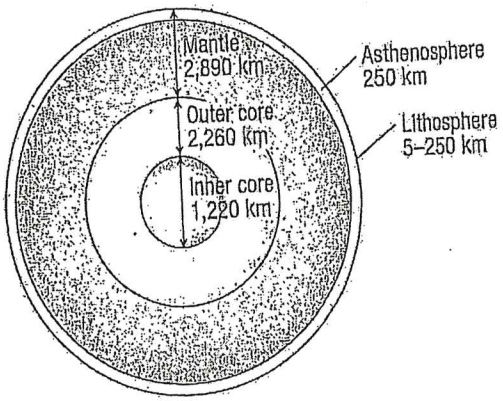
Key Words

crust
lithosphere
asthenosphere
tectonic plates
continental crust
oceanic crust
mantle
magma
lava
hydrothermal vent
core

Have you ever seen oil and vinegar separate in a bottle of salad dressing? The vinegar sinks because it has a higher density than the oil. When Earth was formed billions of years ago, a similar process occurred. Intense heat melted the rocks that make up Earth. The various components in these melted rocks then separated according to their densities. They formed the layers that make up our planet.

Earth's Layers

The illustration below shows the layers found inside Earth.



Earth is made up of four main layers — the crust, mantle, and outer and inner core. The crust is the outermost layer of Earth. Beneath the crust is the **mantle**, a thick layer made up of rock that is solid nearest the crust, but further down hot enough to flow like putty. The outer and inner cores are Earth's innermost layer. The crust and uppermost layer of the mantle form the part of Earth known as the **lithosphere**. The lithosphere is divided into **tectonic plates** — sections that move by floating atop a layer of dense, partially melted rock. Tectonic plates float on the **asthenosphere**. The asthenosphere is a layer of the upper mantle that is made up of partially molten rock.

Did You Know?

Scientists discovered a large area of hydrothermal vents in the middle of the Atlantic Ocean. This area was named the Lost City because it is found on an underwater mountain range called the Atlantis Massif. The Lost City's most distinctive feature is that it sits on crust that formed from mantle material and is about 1.5 million year old.

Earth's Crust

The **crust** is the outermost layer of Earth, and it is also the thinnest, ranging between 5 km and 70 km thick. The crust is accessible to scientists, so it has been studied extensively. It was formed from the partial melting of the mantle and the cooling of Earth. It is a thin layer of light, solid rock. It forms the continents and the entire seabed. The crust constitutes only about 1 percent of Earth's mass. The deepest that humans have ever drilled into the crust is about 15 km. The main components of Earth's crust are oxygen, silicon, and aluminum. There are two distinct kinds of crust—continental crust and oceanic crust.

Continental crust is older and more varied than oceanic crust. It is made of igneous, metamorphic, and sedimentary rocks. It also consists of layers. The lighter granite is on the top, and the heavier basalt is on the bottom. These layers were formed at different times by different processes. The continental crust can be anywhere from 35 km (22 mi) to 70 km (43 mi) thick. Underneath large mountain ranges, the crust bulges downward almost 70 km. Continental crust can be billions of years old. The oldest rocks on the surface are a little less than four billion years old.

Oceanic crust is the rock that makes up the ocean floor. Oceanic crust has almost twice as much iron, magnesium, and calcium as continental crust. These elements make the minerals in oceanic crust denser than the minerals in the continental crust.

Earth's Mantle

The mantle is the layer below the crust that makes up about 67 percent of Earth's mass. It is much thicker than the crust, about 2,900 km thick, and contains mostly iron, magnesium, aluminum, and silicon. The uppermost part of the mantle is solid, but tremendous heat and pressure make the middle part of the mantle act more like a thick liquid. Scientists believe the innermost section of the mantle is solid.

The mantle has more magnesium and less silicon and aluminum than the crust. As a result, the mantle is denser than the crust. Scientists cannot observe the mantle directly, so they study its physical composition by making observations on Earth's surface. In some places, melted mantle rock rises to the surface where scientists can then study it. Melted rock below Earth's surface is called **magma**. When it rises to the surface it can form volcanic mountains, like the ones discussed in the previous lesson.

Test Tips . . .

When preparing for a test, make a list or flashcards containing all the vocabulary words that you have studied. Learning terms and how they are related is a highly effective test-preparation technique.

The ocean floor is another place where scientists can obtain information about the mantle. Active volcanoes on the ocean floor spew out **lava**, or molten rock on Earth's surface. This molten rock rises up from the mantle and flows onto the surface of the oceanic crust. Magma from the mantle also rises up through the oceanic crust and heats water in the crust. This superheated water escapes through openings known as **hydrothermal vents**.

Earth's Core

Earth's innermost layer is called the **core**. It is about 3,500 km thick and makes up about 33 percent of Earth's mass. The core is mostly iron, with a little bit of nickel. Unlike the crust and mantle, the core contains almost no silicon, aluminum, or magnesium.

The core consists of two parts: the inner core and the outer core. The outer core is liquid, but enormous pressures keep the inner core solid. At the center of the core, the temperature is over 6,000°C, and the pressure is four million times greater than the pressure at Earth's surface.

DISCUSSION QUESTION

Is it possible to dig through to Earth's center? Is it possible to get to the other side of the planet in this way? Discuss why this is or is not possible.

LESSON REVIEW

1. Which of these layers of Earth consists mostly of iron?

   A. continental crust

   B. oceanic crust

   C. mantle

   D. core

2. Which of these layers makes up most of Earth's mass?

   A. continental crust

   B. oceanic crust

   C. mantle

   D. core

3. On a cross section diagram of Earth, you would label the center of the planet as the

   A. inner core.

   B. outer core.

   C. mantle.

   D. crust.

4. Which of the following layers has the highest density?

   A. crust

   B. mantle

   C. asthenosphere

   D. core

8th Grade
Science
Day 9

Selection 14—Subject: Science
Theme: The World Around Us

A NOT-SO-SILENT WOMAN

ABOUT THE PASSAGE — In 1962, Rachel Carson wrote a book called *Silent Spring*. This book changed the way we look at the world today and led to many new laws. What do you think it is about?

REASON FOR READING — To learn how one person can have a lasting effect on people's attitudes and behavior.

READ THE PASSAGE

Rachel Carson was concerned about what was happening to the environment. She wanted to tell her fellow Americans that they had better do something about it, so she wrote a book. In *Silent Spring*, she warned that some chemicals were poisoning the air, the water, the earth, and all its creatures. She imagined a time when spring would not bring the rebirth of flowers, trees, and the songs of birds, but a bleak, silent landscape. As a scientist, she knew that elements of nature are **interrelated**. What happens to one thing often affects many others. If a disturbance occurs, it may upset the balance of all parts of nature working together, the balance that **sustains** life.

Ms. Carson's book did make Americans sit up and think, although some, especially those in the chemical industry, felt she was overreacting. The book became a best seller, and she was in great demand as a speaker. People listened to her because what she said made sense, and because she was a scientist who knew her facts.

Rachel Carson was primarily interested in the world of sea and shore, so she became a **marine** biologist for the government. She studied and recorded facts about the sea's plant and animal life, their special characteristics, and the nature of their environments. In 1951, she wrote *The Sea Around Us*, which brought her honors, fame, and respect around the world.

Ms. Carson then devoted herself full-time to research and writing. One thing much on her mind was the effect of modern technology on the natural environment. She thought about fuming smokestacks, atomic waste in the air, **pollutants** dumped into streams, exhaust pouring from cars, and **pesticides** sprayed across the land. She knew all this could not continue without far-reaching, disastrous results, but no one seemed to be doing anything about it. Then a distressed friend wrote her to say that a plane spraying DDT had flown over her yard, and the next day several birds lay dead. Carson decided to act. For four years she studied the use of pesticides in the United States, and then in 1962 she wrote *Silent Spring*.

In her book Ms. Carson attacked the practice of using chemicals to kill insects. The problem was, she said, that these pesticides would harm much more than insects. She explained that these poisons **contaminate** the environment. Even if their effects are not immediately observable, they remain for years in the water and the soil, and they become part of the food eaten by animals and humans. They mount up and remain in the body. Besides, after a time, insects develop an immunity to pesticides. She urged biological rather than chemical control of pests. People listened. Many acted.

This, then, was the beginning of a drive to change things. Government and private citizens saw to it that laws were passed to protect the environment. There have been successes and failures, and much remains to be done. Recent studies have shown that pesticides can affect human brainwave activity and cause irritability, loss of memory, and inability to concentrate. We should still remember Rachel Carson's words: "I think we are challenged as we have never been challenged before to prove our mastery, not of nature, but of ourselves."

THINKING IT OVER

(1) Why did Rachel Carson link the words *silent* and *spring* in her book? _____

_____

(2) What did she mean by her words at the end of the passage? _____

_____

STUDYING THE PASSAGE

(1) Find the Main Idea: Choose one.
- (a) Human beings should stop contaminating the environment.
- (b) How pesticides are harmful.
- (c) What a clever scientist Rachel Carson was.
- (d) How Rachel Carson wanted people to take care of the environment. —

(2) Find the Facts: Mark each one *true* or *false*.
- (a) Rachel Carson imagined a time when spring would not bring a rebirth of nature. —
- (b) If one aspect of nature is disturbed, it does not affect other aspects of nature. —
- (c) Ms. Carson's book was popular. —
- (d) Ms. Carson's first interest was the study of insects. —
- (e) In 1951, she wrote *The Sea Around Us*. —
- (f) Ms. Carson was concerned about the effect of modern technology on the environment. —
- (g) Ms. Carson urged biological, rather than chemical, control of pests. —
- (h) Pesticides do not affect humans. —

(3) Find the Order: Number the following in the order in which they appear in the passage.
- (a) This, then, was the beginning of a drive to change things. —
- (b) A distressed friend wrote her to say a plane spraying DDT had flown over her yard. —
- (c) Ms. Carson decided to act. —
- (d) She explained that these poisons contaminate the environment. —
- (e) Rachel Carson was concerned about the environment. —
- (f) She studied and recorded facts about the sea's plant and animal life. —
- (g) We should still remember Rachel Carson's words. —
- (h) Ms. Carson's book made Americans sit up and think. —

(4) Go beyond the Facts: Which group of people would most likely have tried to prove Ms. Carson was wrong? You may choose more than one.
- (a) Other scientists.
- (b) Politicians.
- (c) Government officials.
- (d) Owners of business and industry. ____ —

(5) Determine the Writer's Style and Technique: How does the writer present Rachel Carson's message?
- (a) She is biased towards Ms. Carson's viewpoint.
- (b) She disagrees with Ms. Carson's viewpoint.
- (c) She presents Ms. Carson's viewpoint objectively.
- (d) She tries to persuade you to agree with Ms. Carson's viewpoint. —

USING THE WORDS

(1) Words and Their Meanings. Find the boldfaced word for these definitions.

_____ (a) harmful chemicals that get into the water, soil, or air

_____ (b) having to do with the sea

_____ (c) bare; gloomy

_____ (d) closely connected with each other

_____ (e) poisons used to kill insects or weeds

_____ (f) holds up; maintains

_____ (g) to make dirty or impure

(2) Write a paragraph using 3 of the words from the list above.

8th Grade
Science
Day 10

Selection 16—Subject: Science
Theme: World of Water, Sea, Fish

THE CHANGING TIDES

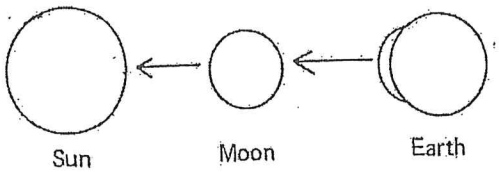
ABOUT THE PASSAGE — Although the moon is almost 240,000 miles from the earth, we can see its effects every day. How does the moon influence the earth even when we may not be able to see the moon itself?

REASON FOR READING — This selection should help you learn to read scientific detail.

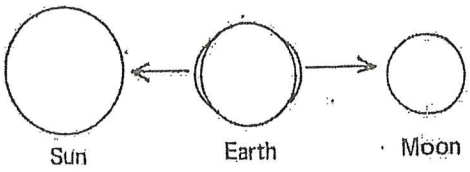
READ THE PASSAGE

Long ago the **regular**, daily rise and fall of the sea was a mystery to people. Equally **mysterious** to them was the moon, about which they wrote many **legends**. What people did not know was that the moon and the tides are **related**—it is the moon that causes the **phenomenon** of the changing tides.

The pull of the earth's gravity keeps the moon in its orbit, and in return, the moon's gravity pulls on the earth. The pull of the moon is enough to cause water to pile up in a hill in the direction of the moon. The moon also pulls the part of the earth near it away from the water on the other side of the earth, so a hill of water forms on that side, too. The sun **exerts** a pull on the earth as well, although this pull is less than that of the moon because it is farther away. Thus, the size of a tide depends upon where the earth, sun, and moon are in relation to each other. If the sun and moon are on the same side of the earth, the combined force of their pull causes very high tides. These are called spring tides. These happen when the moon is full or new.



If, however, the earth is between the sun and moon, the pulls of the sun and moon **partially cancel** each other out, so the tides are less high. These are called neap tides and occur when the moon is in the first and last quarters.



Tides also vary according to the land masses they are near. For example, in the Mediterranean Sea, which is almost surrounded by land, high tide is only a few inches higher than low tide. But in a funnel-shaped bay, such as the Bay of Fundy, in Nova Scotia, there can be a difference of fifty feet between high and low tides.

People did not connect the tides with the moon for a long time. But in the seventeenth century, when Isaac Newton stated the principles of gravity, the relation between tides and the moon became clear. Throughout the next several centuries methods for analyzing and predicting tides improved. Since computers became available in the 1960s, however, almost all aspects of observing, analyzing, and predicting tides have changed, becoming increasingly sophisticated.

THINKING IT OVER

(1) How does the moon cause the tides? _____

_____

_____

_____ (e) expands; puts forth; brings to bear

_____ (f) strange; little understood

_____ (g) stories from the past; myths

_____ (h) to call off

_____ (i) an observable fact or event

(2) Write a paragraph using 3 of the words from the list above.

STUDYING THE PASSAGE

(1) Find the Main Idea: Choose one answer.

(a) Spring tides are very high.
(b) The moon and the sun work together to cause tides.
(c) The ancient sailors depended on the tides.
(d) The tides and the moon are mysterious. ____

(2) Find the Facts: Mark each one *true* or *false*.

(a) The sun helps cause the tides. ____
(b) The moon has less effect on the tides than the sun does. ____
(c) The size of the tides depends on the wind. ____
(d) There are spring and neap tides. ____
(e) The size of a tide depends partly on the land masses surrounding the body of water. ____
(f) Sometimes the earth is on the same side of the moon as the sun is. ____
(g) Sometimes the moon is in between the earth and the sun. ____
(h) Newton's ideas about gravity led to an understanding of tides. ____

(3) Find the Order: Number the following in the order in which they appear in the passage.

(a) Spring tides happen when the moon is full or new. ____
(b) Predicting and analyzing tides reached a high level. ____
(c) The pull of the moon causes a hill of water to pile up. ____
(d) The pull of the earth's gravity keeps the moon in its orbit. ____
(e) Computers helped improve the gathering of information about tides. ____
(f) The Mediterranean Sea is almost surrounded by land. ____
(g) Neap tides are less high than others. ____
(h) Tides vary according to the land masses surrounding a body of water. ____

(4) Go beyond the Facts: Why is the moon sometimes between the earth and the sun and sometimes on the other side of the earth? Choose two.

(a) The earth revolves around the moon.
(b) The moon revolves around the earth.
(c) The sun revolves around the moon.
(d) The earth revolves around the sun. ____ ____

(5) Determine the Writer's Style and Technique: Choose one answer

(a) Explains causes and effect.
(b) Tells a story to illustrate a fact.
(c) Uses analogy to explain something.
(d) Makes comparisons. ____

USING THE WORDS

(1) Words and Their Meanings: Find the boldface words for these definitions. One word has *two* meanings.

_____ (a) predictable; recurs at fixed intervals
_____ (b) incompletely; somewhat
_____ (c) connected in some way
_____ (d) offset; annul; destroy the force of

NTI Day 6

Directions
Read this story. Then answer questions 15 through 21.

Excerpt from *Bee Season*

by Myla Goldberg

1 More than ever, Eliza wants to win. She wants to win with a word so difficult her father will have to admit that he was wrong, that the letters are already guiding her.

2 When Number 127 is being asked to spell LOQUAT, Eliza closes her eyes and feels her mind empty out. L fills her head, a glowing yellow the color of molten metal. *This is what Dad meant.* She's surprised at how easy it is. Inside Elly's head, L grows longer, its edges curving inward to form an O. Her body loosens. When the edge of O grows a tail to become Q, Eliza feels the change in her fingertips. Q's top evaporates and its tail disappears, U settling warm in her belly. Elly feels a tickle as U flips and grows a line through its middle to become an A. When A's legs slide together as its arm floats up T fills Eliza, straightening her spine. Eliza opens her eyes. She feels as if she has just woken from a deep sleep. Number 127 is walking offstage to the sound of vigorous applause.

3 "I did it," she mouths to her father across the room.

4 Saul smiles and nods. "I love you too," he mouths back equally indecipherably.

5 By Round 7, there are seventeen of them. Number 14, whose perpetually perfect posture adds to the overall impression that he is an android, causes murmurs of admiration when he rips through DVANDVA without asking for a derivation or use in a sentence. When Number 22 gets her word wrong, No Chin has to pry her hand from the microphone. Number 33 decides midway through PERIPATETIC that he has made a mistake. He turns stubbornly silent, demanding to be dinged out rather than made to complete the word. He stands mute until his time runs out. The judge's spelling reveals that the boy's progress had been perfect until he had refused to go on.

6 Number 36 is called to the mike. Rachel almost trips on her way to the front of the stage, removes the microphone from its stand, and holds it to her mouth like a lounge singer. The Independence Ballroom suddenly seethes with the sound of her nervous breathing.

7 "Number 36, your word is GREGARINE."

GO ON

8 Having been informed that a gregarine is a parasitic protozoan taken from the Latin, Rachel has no choice but to start spelling. She pounds her palm against her forehead after each letter, as if trying to knock the next one loose. Because she is holding the microphone so close to her face, each moment of contact sounds like a heavy blow.

9 "...I..." Pound. "...N..." Pound. "...E..." Pound. "Gregarine."

10 Eliza finds herself bracing for the next blow, but none comes. The judge's "Correct" sends Rachel leaping back to her seat to resume picking at her placard, which is now noticeably smaller than the others.

11 When Number 41 is given PURIM Eliza almost laughs out loud. Then she realizes that such an easy word right before her turn is a bad sign, almost certain to mean she's destined to get something awful. Number 41, the only contestant wearing a yarmulke, makes short work of PURIM and returns to his seat with a dazed grin. The judge calls Eliza to the mike.

12 As she stands, Elly hazily recalls her nightmare: the expectant silence, the feeling she is holding up time, the endless path from her seat to the microphone. She decides that if she can get this next word, whatever it may be, her chances of winning are practically guaranteed. From the moment she rises from her chair, she locks eyes with Saul, whose gaze practically steers her to the microphone.

13 "Number 59, your word is DUVETYN."

14 "Dew-veh-teen?" Eliza's heart lurches into her throat. In her mind's eye, she sees nothing.

15 "That is correct. Duvetyn."

16 Saul is staring so hard it feels like he's directly in front of her instead of halfway across the room. She wants to ask him to leave, to just get on the plane and fly back home.

17 "Um, what does it mean?"

18 The judge's voice is irritatingly friendly. "Duvetyn is a soft, short-napped fabric with a twill weave, made of wool, cotton, rayon, or silk."

19 Eliza whispers the word, feels the way it shapes her tongue and lips. From these movements she tries to chart the word's path through time and place. Where has it traveled? When was it born?

20 "What is the derivation, please?"

21 The judge's voice is ever neutral, revealing nothing. "Duvetyn comes to us from the French."

22 Eliza wants to see herself through the judge's eyes. Does he have favorites? Is she one of them? Or are they interchangeable, one long blur of nervous hands and voices? Her placard suddenly reminds her of the stickers affixed to new underwear: INSPECTED BY 59.

23 She's got to focus. There isn't much time. She returns to Duvetyn, pushes everything else aside.

24 I know it starts with D.

25 "Dew-veh-teen."

26 At first it is a struggle to empty her mind which keeps conjuring up fresh images: her father's face, a conveyer belt laden with tagged children, but eventually all is black and blank. D, D, D, D, D, D, Eliza thinks *until* D, proud and foreboding appears in her mind's eye. Then, its top disappears. The letters are showing her the way.

27 "D-U . . ."

28 Dew- veh - teen. She speeds through the next few letters, which are obvious.

29 ". . . V-E-T . . ." and now she's got the word in her head, letters rearranging themselves into something that looks right, something French.

30 ". . . I-N-E. Duvetine." It feels good.

31 Time moves so slowly. The silence lasts so long Eliza is sure it means she is correct. Her heart begins to pound faster. Walter Cronkite and the loving cup are practically hers.

32 *Ding.*

15 What does paragraph 2 most reveal about Eliza?

A She has a strong imagination.

B She seldom misspells a word.

C She thinks her father knows best.

D She gets easily distracted.

16 In paragraph 12, how does the description of the nightmare mainly affect the tone of the story?

A It suggests that Eliza doubts she will win the bee.

B It suggests that the bee seems unreal to Eliza.

C It suggests that Eliza is unwilling to compete in the bee.

D It suggests that the bee is stressful for Eliza.

17 Which quotation best expresses a central idea of the story?

A "She wants to win with a word so difficult her father will have to admit that he was wrong, that the letters are already guiding her." (paragraph 1)

B "Eliza finds herself bracing for the next blow, but none comes." (paragraph 10)

C "The judge's voice is ever neutral, revealing nothing." (paragraph 21)

D "Eliza wants to see herself through the judge's eyes." (paragraph 22)

18 The ideas in paragraphs 22 and 26 **mostly** contribute to the reader's understanding of Eliza by revealing

A her inability to understand the judges

B her discomfort standing in front of the audience

C her concern about impressing her father

D her difficulty with spelling the assigned word correctly

19 What does paragraph 31 **mainly** reveal about Eliza?

A her patience

B her intelligence

C her confidence

D her enthusiasm

20 Which detail would be **most** important to include in a summary of the story?

A Eliza knows that difficult words follow easy words at spelling bees.

B Eliza gets a word that means a kind of fabric with a twill weave.

C Eliza empties her mind and sees the letters come up as images.

D Eliza is one of seventeen spellers in this round of the spelling bee.

GO ON

21 How does the point of view most influence the tone of the story?

A The descriptions of the contestants competing builds suspense.

B The references to unusual words add humor.

C Eliza's distant observations of her father develop conflict.

D Eliza's interior monologue creates a sense of strangeness.

NTI Day 7

Directions
Read this story. Then answer questions 1 through 7.

Excerpt from *One-Eyed Cat*

by Paula Fox

Ned loved snow, the whisper when he walked through it, a sound like candles being blown out, the coming indoors out of it into the warmth, and standing on the register in the big hall through which the dusty, metal-smelling heat blew up, and the going back out again, shivering, cold, stooping and scooping up a handful to make a snowball, packing it hard with wet mittens, hefting it, tossing it as far as he could, and the runners of his sled whispering across it as he sleighed down the slopes which were smooth and glittering and hard, like great jewels.

On the first of December, there was a heavy snowfall. When Ned looked out of his window the next morning, the river glowed like a snake made out of light as it wound among the snow-covered mountains.

He ate breakfast hastily, too preoccupied to read the story on the cereal box. Mrs. Scallop[1] was broody this morning and left him alone, her glance passing over him as it passed over the kitchen chairs.

On the porch, he paused to take deep breaths of air which tasted, he imagined, like water from the center of the ocean, then he waded into the snow, passing the Packard,[2] its windows white and hidden, the crabapple tree with its weighted branches, down the long hill trying to guess if he was anywhere near the buried driveway. By the time he reached Mr. Scully's house, his galoshes were topped with snow and his feet were wet. Mr. Scully's shades were drawn; the house had a pinched look as though it felt the cold.

Ned went around to the back until he could see the shed. There were boot tracks in the snow leading to it and returning to the back door. He guessed the old man had taken in the cat's bowl; it was nowhere to be seen. You couldn't leave anything out in this weather, it would freeze. Mr. Scully had told him that finding water in the winter was a big problem for animals. Licking the snow or ice could make them sick.

Ned stared hard at the shed. Perhaps the cat was inside, squeezed in behind logs in a tight space where its own breath would keep it warm. He was going to be late to school if he didn't get a move on, but he kept looking hard all over the yard as though he could make the cat appear out of snow and gray sky. Twice, his glance passed over the icebox. The third time, he saw that the motionless mound on top of it was not only the quilt but the cat, joined into one shape by a dusting of snow.

[1] **Mrs. Scallop:** Ned's family's housekeeper
[2] **Packard:** a brand of car that is no longer manufactured

GO ON

Ned held his breath for a moment, then put his own feet in Mr. Scully's tracks and went toward the shed. The tracks had frozen and they crunched under Ned's weight, but the cat didn't raise its head. Ned halted a few feet away from it—but of course, he realized, it wouldn't hear him because of its deaf ear. He could have gone closer to it than he'd ever been but he had a sudden vision of the cat exploding into fear when it finally did hear him.

When he got back to the front of the house, he saw fresh footsteps on the road. He could tell it was the road because of the deep ditches which fell away to either side. He guessed they were Billy's tracks. It was odd to think that Billy, huffing and puffing, had gone past Mr. Scully's place, thinking his own thoughts, while he, Ned, only a few yards away, had been searching for the cat. He found Evelyn's tracks, too, and later on, Janet's, the smallest of all. He felt ghostly as if he'd been left alone on a white, silent globe.

Somewhere in the evergreen woods, snow must have slid off a bough, for he heard the loud plop, then the fainter sound of the bough springing up, relieved of the weight. He thought about the cat, visualizing how it had looked on the quilt. How still it had been! Why hadn't he gone right up to it, looked at it close, touched its fur? Why had it been so motionless—still as death, still as a dead vole he'd seen last summer in the grass near the well? He came to the snow-covered blacktop road upon which a few cars had left their ridged tire tracks. He had a strong impulse to turn back, to play hooky for the first time in his life. Mr. Scully, with his poor eyesight, might not spot the cat on top of the icebox, might not, then, set food out for it. Fretting and shivering, his feet numb, Ned went on to school.

He tried very hard to concentrate on his lessons, to watch Miss Jefferson's plump, even handwriting on the blackboard as she wrote out the lines from a poem by Thomas Gray that the class was to memorize that week, but try as he might, the image of the unmoving animal on the ragged old quilt persisted. Last week, on a rainy afternoon, the cat had looked at Ned, had cocked its head as though to see him better. Its one eye, narrowed, had reminded him of a grain of wheat.

"The curfew tolls the knell of parting day,

The lowing herd wind slowly o'er the lea . . ."

Ned read the lines several times before copying them down in his copybook. The words made no sense to him. It was this that had made his hours in school so hard ever since he and Mr. Scully had seen the cat last autumn, this drawing away of his attention from everything that was going on around him. He was either relieved because the cat was where he could see it or fearful because he didn't know where it was.

1 Read these words from lines 18 and 19.

> **Mr. Scully's shades were drawn; the house had a pinched look as though it felt the cold.**

The use of the words "pinched look" contributes to the tone of the story by making the house seem

A tense

B angry

C uncertain

D disappointed

2 Lines 20 through 24 contribute to the development of the plot by

A showing that Ned and Mr. Scully are friends

B describing the challenges of dealing with heavy snow

C suggesting that Mr. Scully has been neglecting the cat

D describing weather conditions that can be dangerous for the cat

3 In lines 31 through 36, Ned keeps his distance from the cat because he

A envisions the cat being sick from licking ice or snow

B believes the cat will make him late to school

C imagines the cat will become panicked

D remembers the cat is deaf and unlikely to respond

GO ON

4 Lines 37 through 42 in the story reveal that Ned feels

A isolated

B confused

C relieved

D confident

5 Ned's decision to leave the cat causes

A the cat to become more afraid

B Ned to be left behind by the other children

C the cat to go hungry for the rest of the day

D Ned to be distracted from his work during school

6 Which quotation **best** supports a central theme of the story?

A "He ate breakfast hastily, too preoccupied to read the story on the cereal box." (line 11)

B "Twice, his glance passed over the icebox." (line 28)

C ". . . but try as he might, the image of the unmoving animal on the ragged old quilt persisted." (lines 55 and 56)

D "Ned read the lines several times before copying them down in his copybook." (line 61)

7 Which quotation from the story **best** shows how the cat has impacted Ned's life?

A "He was going to be late to school if he didn't get a move on, but he kept looking hard all over the yard as though he could make the cat appear out of snow and gray sky." (lines 26 through 28)

B "The third time, he saw that the motionless mound on top of it was not only the quilt but the cat, joined into one shape by a dusting of snow." (lines 29 and 30)

C "It was odd to think that Billy, huffing and puffing, had gone past Mr. Scully's place, thinking his own thoughts, while he, Ned, only a few yards away, had been searching for the cat." (lines 39 through 41)

D "It was this that had made his hours in school so hard ever since he and Mr. Scully had seen the cat last autumn, this drawing away of his attention from everything that was going on around him." (lines 62 through 64)

NTI Day 8

Directions
Read this article. Then answer questions 22 through 28.

Clash of the Condiments: Wasabi vs. the Chili Pepper

by Mary Beth Cox

Most condiments are peaceable enough. The sauces, spreads, and pickles of the world add flavor to our foods without kicking up much of a fuss. This is not true of the pungent or "hot" condiments. They are more aggressive. They get our attention by purposely causing us pain. These strong-armed seasonings are often the source of friendly competitions. Loyal fans will contend that their favorite pungent condiment is the one that packs the most powerful punch. Ladies and gentlemen, you are cordially welcomed to just such a contest. Here it is, the Match of the Moment: Wasabi vs. the Chili Pepper.

IN YOUR CORNERS

Introducing in the Green Corner, hailing from the island nation of Japan, sushi's inseparable sidekick: Wasabi! *Wasabia japonica* grows wild on the cool, damp banks of Japan's many mountain streams. The chill of its habitat is quite ironic since wasabi is famous for bringing the heat. The plant is a botanical relative of mustard and horseradish. Pungency runs in the family. Traditionally, wasabi is prepared by grating its rootstock on the abrasive skin of an angel shark. Authentic wasabi is relatively rare and difficult to come by. The emerald condiment that is served outside of Japan is almost always horseradish pulp dyed with green food coloring. Whether the wasabi is real or whether it's the more common substitute, a whopping snootful will make you cry for your momma!

And in the red corner, originating from the Central and South Americas, now an international culinary superstar: the Chili Pepper. Chili peppers are fruits of the plants of the botanical genus *Capsicum*. They are related to the tomato and the eggplant. They're the renegades in an otherwise mild-mannered botanical family. Chili peppers include but are not limited to the poblano, the cayenne, the jalapeño, the tabasco, the habanero, and the serrano. One of these culprits sometimes goes by the alias "chipotle." A chipotle (pronounced chee-POHT-lay) is none other than a dried smoked jalapeño. Chilies were introduced to the non-American world by Christopher Columbus, who mistakenly identified them as variants of black pepper. Chilies have since taken the culinary world by storm. They appear alongside dishes served around the globe, from the Basque provinces to North Africa and the Middle East, to India and Southeast Asia. A potent chili pepper in the kisser will make you rue the day you were born!

GO ON

POWERFUL PUNCHES

Both wasabi and chilies are condiments of world-class pungency. But how do they match up head to head? Each has its own unique tactical move. Each has its own special point of attack. The active ingredient of the wasabi plant is stored stealthily in its cells. Under normal growing conditions, this ingredient is completely harmless. It's not until the plant's cells are ruptured (as by the grating action of angel shark skin) that the trouble begins. *Enzymes* convert the ingredient into molecules of allyl isothiocyanate. It's the chemical characteristics of these irritating molecules that are the secret to wasabi's pungency. Allyl isothiocyanate molecules are lightweight. They are *volatile*. They are also soluble in water. As a consequence, the consumption of wasabi launches an airborne assault on the consumer's sinuses. Allyl isothiocyanate molecules waft up the nose and back of the throat. They dissolve in the watery fluids they find there. They intercept nerve endings in the nasal passages. Specifically, these molecules target pain receptors of the type known as $TRPA_1$. $TRPA_1$ receptors respond to the attack by sending emergency signals to the brain: "Yikes . . . we've gotten hold of something painfully hot!"

Chili peppers conduct operations of a different sort. Their active ingredient is a substance called capsaicin. It's found in the spongy inner tissue of peppers, but it can leak onto the seeds and inner wall of the fruit. Capsaicin molecules are heavier than the molecules of wasabi's allyl isothiocyanate. They are not volatile. They prefer to dissolve in oils, so they aren't as easily dissolved in water. Capsaicin molecules instigate an incendiary assault upon contact with exposed vulnerable surfaces. They cling to the tender tissues of the lips, mouth, and throat. They burn eyes that are rubbed with capsaicin-laced fingers. Capsaicin molecules interact with pain receptors of the type $TRPV_1$. Again an alert is expedited to the brain: "Mayday! Mayday! Let's not eat any more of that, please!"

WHERE'S THE REFEREE?

So which of these condiments causes the most pain? To settle any contest, a scoring system is required. There is a way to compare the relative heat intensities of the various chili peppers. It's called the *Scoville scale*. Scoville ratings are determined by brave human test subjects who willingly sip extracts of chili pepper juice. Extracted juices are diluted again and again until their heat can no longer be detected. A high rating on the Scoville scale means that a lot of dilutions are necessary to eliminate the pain caused by a particular pepper. Unfortunately, Scoville ratings are not applicable to wasabi. The method is specifically designed to extract capsaicin from chili peppers. It doesn't work for allyl isothiocyanate, or for anything else.

Pepper pungencies are also compared by using chromatography. *Chromatography* is an analytical technique that separates the chemical components of a mixture. After separation, the amounts of each component are quantified. Chromatography can determine how much capsaicin is in a pepper. It can also determine how much allyl isothiocyanate is in wasabi. If two chili peppers have the same amount of capsaicin, it can be assumed that those peppers are equally "hot." But the same assumption cannot be made when comparing chili peppers to wasabi. There's no way to know if equal amounts of capsaicin and allyl isothiocyanate cause equal degrees of pain. So chromatography cannot definitively judge this contest.

It isn't even possible to directly measure and compare nerve responses, since two different types of pain receptors are involved. Wasabi and chili peppers are like pungent apples and oranges. There's no objective way to declare one more potent than the other. This friendly competition won't be settled anytime soon. Everyone is free to chime in with an opinion. You just have to try both of these pungent powerhouses, then root for your own favorite flavor of pain.

GO ON

22 How do lines 1 through 7 **mainly** establish the tone of the article?

A They create curiosity by inviting the reader to provide an opinion on the two condiments.

B They create interest by describing loyal fans supporting their favorite condiment.

C They create humor by personifying two condiments in an imagined contest.

D They create tension by analyzing the popularity of two condiments.

23 Read lines 25 and 26 from the article.

Chilies have since taken the culinary world by storm.

Which detail **best** supports the author's claim?

A Chili peppers come in many varieties.

B Chili peppers are used in many different countries.

C Chili peppers are related to tomatoes and eggplants.

D Chili peppers were mistakenly thought to resemble black pepper.

24 Read this sentence from lines 37 and 38 of the article.

As a consequence, the consumption of wasabi launches an airborne assault on the consumer's sinuses.

What does the phrase "airborne assault" add to the author's description?

A It explains the effect of experiencing the molecules in wasabi.

B It suggests a painful experience that makes wasabi undesirable.

C It warns that direct contact with wasabi causes injury.

D It cautions that wasabi causes an intense repeated attack occurring over time.

25 What is the role of the section "Powerful Punches" in the development of the article?

A It describes the physical differences between wasabi and chili peppers.

B It explains the best ways to experience the heat from wasabi and chili peppers.

C It describes why wasabi and chili peppers are both enjoyable and painful to consume.

D It provides a scientific explanation for the effects of consuming wasabi and chili peppers.

26 The Scoville scale determines the strength of the heat in chili peppers by

A counting the number of sips of chili pepper juice a human subject can consume

B recording the amount of capsaicin present in specific amounts of chili pepper juice

C measuring how much chili pepper juice must be weakened for it to no longer cause pain

D comparing descriptions of the heat a human subject feels while drinking chili pepper juice

27 What is the result of being unable to use the Scoville scale to measure the heat strength of wasabi?

A Chromatography is used to compare the heat strengths of wasabi and chili peppers.

B Comparing the heat strengths of wasabi and chili peppers using a scientific method is impossible.

C A new scale will be developed to compare the degree of pain caused by wasabi and chili peppers.

D Experts now rely on a scale based on measuring consumer pain responses to wasabi and chili peppers.

GO ON

28 Read this sentence from lines 71 and 72 of the article.

Wasabi and chili peppers are like pungent apples and oranges.

Which evidence from the article best supports this statement?

A "They get our attention by purposely causing us pain." (lines 3 and 4)

B "After separation, the amounts of each component are quantified." (lines 62 and 63)

C "If two chili peppers have the same amount of capsaicin, it can be assumed that those peppers are equally 'hot.'" (lines 65 and 66)

D "There's no way to know if equal amounts of capsaicin and allyl isothiocyanate cause equal degrees of pain." (lines 67 and 68)

NTI Day 9

Directions
Read this article. Then answer questions 29 through 35.

Excerpt from
Humans With Amazing Senses

When bats go out to hunt, they send out sonar signals at such high frequencies and in such rapid bursts that they can hear the signals bounce off mosquitoes in midair. They then zero in on the insects like laser-guided missiles. Dolphins use the same technique to find their dinners. It's called echolocation, a technique that uses sound to identify objects by the echoes they produce.

Fourteen-year-old Ben Underwood of Sacramento, Calif., is one of the few people known to use echolocation as a primary means of navigating the world on land. There's not even a hint of light reaching his brain. His eyes are artificial, but his brain has adapted to allow him to appraise his environment. He makes a "clicking" sound to communicate with objects and people around him.

Scientists have discovered that in the brains of the blind, the visual cortex has not become useless, as they once believed. When blind people use another sense—touch or hearing, for example—to substitute for sight, the brain's visual cortex becomes active, even though no images reach it from the optic nerve. Echolocation creates its own images.

"I can hear that wall behind you over there. I can hear right there—the radio, and the fan," Ben says.

Ben says every object in his life talks to him in ways that no one else can hear or understand.

Forty-year-old Daniel Kish of Long Beach, Calif., also uses echolocation, and has become an expert on it, founding the World Access for the Blind, an organization that teaches others how to echolocate. Kish leads other blind people on mountain biking tours and hikes in the wilderness, visualizing and describing the picturesque sights around him through echolocating.

Clicking to Do Anything

If you listen closely to Ben or Kish, you can hear how they find their way. Ben says he can distinguish where the curbs are as he cruises his neighborhood streets.

He can find the pole and the backboard on a basketball goal, and tell which is which by the distinctive echo each makes. Even though he can't see the goal he's aiming for, he can sink a basket. Ben doesn't remember how or when he began clicking, but he's developed his abilities to such an extent that aside from echolocation, he can rapidly discriminate the sounds in video games.

GO ON

Ben lost his sight when he was 2. He was diagnosed with cancer in both eyes, and when chemotherapy failed, his mother, Aquanetta Gordon, was left with one option: For her son to live, both his eyes had to be surgically removed.

Gordon remembers her son after the operation.

"He woke up and he said, 'Mom, I can't see anymore, I can't see anymore.' And I took his hands and I put them on my face and I said, 'Baby, yes, you can see.' I said, 'You can see with your hands.' And then I put my hand on his nose and I said, 'You smell me? You can see with your nose and your ears. . . . You can't use your eyes anymore, but you have your hands and your nose and your ears.'"

In a house already filled with three other children, Ben's mother decided not to treat his blindness as a handicap. In school, Ben recognizes his classmates by their voices. With the help of Braille books and a talking laptop computer, Ben attends the same classes as sighted students.

Rich Mental Images, Without Visual Elements

Like Ben, Kish also lost his eyesight to cancer at age 1. He was raised to believe he could do pretty much anything, and he discovered clicking by accident as a child.

"I have mental images that are very rich, very complex. They simply do not possess the visual element," Kish says.

In retrieving those pictures, Kish varies the pace and volume of his clicks as he walks along; and what he can tell you about an object's qualities is sometimes astonishingly thorough.

If bats can distinguish prey as small as mosquitoes with echolocation, and some dolphins can detect small targets a hundred yards away, what are the ultimate capabilities of human beings like Ben and Kish?

Peter Scheifele, who studies hearing and sound production in animals and people at the University of Connecticut, analyzed samples of the clicks that Ben and Kish make.

"Ben clicks, looks to me like once every half second, whereas a dolphin is actually making 900 clicks per second. And the bat is even faster than that," Scheifele says.

The bottom line: Human beings send out sounds at much slower rates and lower frequencies, so the objects people can picture with echolocation must be much larger than the ones bats and dolphins can find.

29 Which statement expresses a central idea of the article?

A Very few people use echolocation in their daily lives.

B Echolocation is a technique that can be utilized by humans.

C Echolocation has been studied by scientists for many years.

D Some animals are known for using echolocation to find food.

30 How do lines 1–5 contribute to the understanding of the text?

A by showing the widespread use of echolocation by animals

B by giving examples to explain how echolocation works

C by presenting the characteristics of animals that use echolocation

D by describing how each species uses echolocation differently

31 In people who are blind, the visual cortex seems to help

A activate the optic nerve where images are formed

B increase the amount of light reaching the brain

C create images in the brain based on sounds

D make echoes of sounds from clicks

GO ON

32 Read this sentence from lines 17 and 18.

Ben says every object ~~in~~ his life talks to him in ways that no one else can hear or understand.

Which quotation **best** supports this claim?

A "He can find the pole and the backboard on a basketball goal, and tell which is which by the distinctive echo each makes." (lines 26 and 27)

B "Even though he can't see the goal he's aiming for, he can sink a basket." (lines 27 and 28)

C "In school, Ben recognizes his classmates by their voices." (line 41)

D "With the help of Braille books and a talking laptop computer, Ben attends the same classes as sighted students." (lines 41 through 43)

33 Read Daniel Kish's claim from line 46.

"I have mental images that are very rich, very complex."

Which quotation from the article **best** supports this claim?

A ". . . Kish of Long Beach, Calif., also uses echolocation, and has become an expert on it. . . ." (lines 19 and 20)

B "He was raised to believe he could do pretty much anything. . . ." (lines 44 and 45)

C ". . . Kish varies the pace and volume of his clicks as he walks along. . . ." (lines 48 and 49)

D ". . . what he can tell you about an object's qualities is sometimes astonishingly thorough." (lines 49 and 50)

34 How do lines 51 through 53 develop a key concept of the article?

A by using a comparison to suggest the echolocation potential of humans

B by demonstrating that humans use echolocation more effectively than animals do

C by describing why using echolocation benefits bats and dolphins in unique ways

D by showing that scientists need more time to study echolocation techniques

35 Echolocation used by humans is distinct from echolocation used by animals because animals can

A create louder clicking noises

B distinguish among more sounds

C see objects that are farther away

D locate objects that are smaller in size

STOP

NTI Day 10

Name: _____ Class: _____ Date: _____

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