

AMI for week of April 20th-24th 8th Grade Science

Electric Charge and Electric Force

Electric charges exist within the atom. At the turn of the 20th century, J. J. Thomson and Ernest Rutherford determined that atoms contain very light-weight negatively charged particles called **electrons** and more massive, positively charged particles called **protons**. The protons are lodged in the nucleus of the atoms, along with the neutrally charged particles called **neutrons**, while the electrons surround the nucleus. When the number of electrons in the electron cloud and the number of protons in the nucleus are equal, the object is said to be neutral.

Changes to the nucleus of an atom require tremendous amounts of energy, so protons are not easily gained or lost by atoms. Electrons, on the other hand, are held fairly loosely and can often be removed quite easily. When an object loses some electrons, the remaining object is now positively charged because it has an excess of protons. The electrons may either remain free or may attach to another object. In that case, the extra electrons cause that object to become negatively charged. Atoms that have lost electrons and become positively charged are called positive ions, and atoms that have gained electrons and become negatively charged are called negative ions.

Electrons can be removed from some objects using friction, simply by rubbing one substance against another substance. There are many examples of objects becoming charged by **friction**, including a rubber comb through hair, and a balloon on a sweater. In both these instances, the electrons move from the second object to the first, causing the first object to become negatively charged and the second one positively charged. Friction between the tires on a moving car and the road cause the tires to become charged, and wind causes friction between clouds and air which causes clouds to become charged and can result in tremendous bolts of lightning.

A common method of producing charge in the lab is to rub cat or rabbit fur against stiff rubber, producing a negative charge on the rubber rod. If you hold a rubber rod on one end and rub only the tip of the other end with a fur, you will find that only the tip becomes charged. The electrons you add to the tip of the rod remain where you put them instead of moving around on the rod. Rubber is an **insulator**. Insulators are substances that do not allow electrons to move through them. Glass, dry wood, most plastics, cloth, and dry air are common insulators. Materials that allow electrons to flow freely are called **conductors**. Metals have at least one electron that can move around freely, and all metals are conductors.

Forces are exerted on charged objects by other charged objects. You've probably heard the saying "opposites attract," which is true in regards to charged particles. Opposite charges attract each other, while like charges repulse each other. This can be seen in the image below. When two negatively charged objects are brought near each other, a repulsive force is produced. When two positively charged objects are brought near each other, a similar repulsive force is produced. When a negatively charged object is brought near a positively charged object, an attractive force is produced.

Earth's Magnetic Field

You can use Earth's magnetic field to tell you where you want to go. A compass needle aligns with Earth's magnetic field. People can navigate by finding magnetic north. If you know where north is, you can figure out how to get anywhere. A compass is great for finding your way when you're out in the field!

Earth's Magnetism

Earth has a magnetic field. The magnetic field behaves like a giant bar magnet inside Earth. If you have a large bar magnet, you can hang it from a string. Then watch as it aligns itself in a north-south direction. It does this to line up with Earth's magnetic field.

The magnetic field has north and south poles. The magnetic poles do not exactly match the geographic poles. So the North Magnetic Pole is not the same as the geographic North Pole. The same is true of the South Pole. The magnetic field is created by the movement of molten metal in the outer core.

Earth's magnetic field extends several thousand kilometers into space. It shields us from harmful radiation from the Sun.

Magnetic Reversals

Something very strange has happened many times during Earth's history. The planet's magnetic field flipped! The North Magnetic Pole became the South Magnetic Pole. The South Magnetic Pole became the North Magnetic Pole. Scientists are not sure why this happens. The fact that it does happen is useful to scientists.

Electric Charge and Electric Force

Directions: Read the passage “Electric Charge and Electric Force” and answer the following questions

1. Neutrons are _____
 - a. Positively charged
 - b. Negatively charged
 - c. Neutral charge

2. Protons are _____
 - a. Positively charged
 - b. Negatively charged
 - c. Neutral charge

3. Neutrons are _____
 - a. Positively charged
 - b. Negatively charged
 - c. Neutral charge

4. What is an example of friction?

5. What is an example of an insulator?

6. What is an example of a conductor?

Earths Magnetic Field

Directions: Read the passage “Earth’s Magnetic Field” and answer the following questions

1. A compass needle aligns with Earth’s magnetic _____

2. A magnetic field has _____ and _____ poles.

3. Earth's magnetic field shields us from _____ _____ from the Sun.

Newton's Third Law

Newton's third law of motion explains how Jerod starts his skateboard moving. This law states that every action has an equal and opposite reaction. This means that forces always act in pairs. First an action occurs—Jerod pushes against the ground with his foot. Then a reaction occurs—Jerod moves forward on his skateboard. The reaction is always equal in strength to the action but in the opposite direction.

Equal and Opposite Forces

The forces involved in actions and reactions can be represented with arrows. The way an arrow points shows the direction of the force, and the size of the arrow represents the strength of the force.

Equal and Opposite but Not Balanced

Because action and reaction forces are equal and opposite, you might think they would cancel out, as balanced forces do. But you would be wrong. Balanced forces are equal and opposite forces that act on the same object. That's why they cancel out. Action-reaction forces are equal and opposite forces that act on different objects, so they don't cancel out. In fact, they often result in motion. Think about Jerod again. He applies force with his foot to the ground, whereas the ground applies force to Jerod and the skateboard, causing them to move forward.

Q: Actions and reactions occur all the time. Can you think of an example in your daily life?

A: Here's one example. If you lean on something like a wall or your locker, you are applying force to it. The wall or locker applies an equal and opposite force to you. If it didn't, you would go right through it or else it would tip over.

Directions: Read the passage “Newton’s Third Law” and answer the following questions

1. What is Newton’s third law?
2. Forces always act in _____.
3. The forces involved in actions and reactions can be represented with _____.
4. The way an arrow points shows the _____ of the force.
5. The size of an arrow represents the _____ of the force.
6. Action and reaction forces are _____ and _____.

Storytelling Devices Review:

Key Terms:

1. **Suspense** is the intense feeling that an audience goes through while waiting for the outcome of certain events. It basically leaves the reader holding their breath and wanting more information. The amount of intensity in a **suspenseful** moment is why it is hard to put a book down.

Write down an example of when you have seen **suspense** in a story, movie, or tv show. Explain how this example meets the definition of suspense.

2. **Flashbacks** are interruptions that writers do to insert past events, in order to provide background or context to the current events of a narrative. By using flashbacks, writers allow their readers to gain insight into a character's motivations, and provide a background to a current conflict.

Write down an example of when you have seen a **flashback** in a story, movie, or tv show. Explain how this example meets the definition of flashback.

3. **Foreshadowing** is a **literary** device in which a writer gives an advance hint of what is to come later in the story. **Foreshadowing** often appears at the beginning of a story, or a chapter, and helps the reader develop expectations about the coming events in a story.

Write down an example of when you have seen a **foreshadowing** in a story, movie,

or tv show. Explain how this example meets the definition of flashback.

4. **Tension** is a balance maintained in an artistic work between opposing forces or elements. **Tension** is that element in a novel that evokes emotions such as worry, anxiety, fear and stress on the part of both the reader and the characters in a novel.

Write down an example of when you have seen a **tension** in a story, movie, or tv show. Explain how this example meets the definition of flashback. (Suspense and tension are closely related, so it's okay if you use the same example.)

Read the story and answer the questions below.

The Big Game

(1) Armando followed his coach through the tunnel, around the corners, and among hundreds of people. At last they stepped into the fresh air of the stadium, which really wasn't that fresh. It smelled like burnt popcorn and hot dogs. While the smell caught his attention, it was the furthest thing from his mind at the moment. Armando was gazing down on a pristine carpet of green grass decorated with straight white lines and scattered with patches of soft brown dirt.

(2) "Come on! Quit staring at the field and clear the path! You've been here before." The rest of his team hustled and bustled from behind so that they could make it to their seats. He laughed as they all rushed down the stairs after the coach. They were sitting halfway down near the third base line, which was also the home team's side. Their coach had made arrangements for these tickets three months in advance. Many sports fans had speculated that this game would become an instant classic. The Eagles' and the Ravens' records had been almost identical during the whole baseball season.

(3) Armando was poring over the Eagles' roster when his teammates decided it was time for a snack. "Bring me a cold drink, please. Ramirez is next at the batting cage, and I don't want to miss anything he does," Armando said excitedly. George Ramirez was a baseball superhero as far as Armando was concerned.

(4) "Is he healthy enough to play today? Or is his shoulder still injured?" Armando asked as his friends returned and handed him a cold drink.

(5) “The announcers haven’t said anything about it today, and the lineup for today’s players isn’t out. I hope he plays! I’ve waited all year to see my man from Puerto Rico play! Hey, did you know that my parents lived down the street from his abuela in San Juan?”

(6) “Yes we know, but only because you mention it every time we talk about him or baseball or your parents or your grandma!”

(7) Armando didn’t respond to his friends’ teasing. He was too captivated by what was happening on the field, George Ramirez had started batting practice. He missed two pitches before his first solid hit. That hit was followed by six more. Armando was ecstatic to see that his favorite player would be in the game when, suddenly, Ramirez had dropped his bat and bent over, holding his shoulder. Armando slumped in his seat, disappointed, but determined to enjoy the game. As much as he admired Ramirez and wanted to see him play, he understood the importance of Ramirez’s health. He also realized that Ramirez was a member of a great team, and it would still be a good game.

(8) It was the bottom of the seventh inning when Armando had reason to hope again. The Eagles were behind the Ravens by two runs. They had two men on base with only one out, and Ramirez was warming up in the batter’s cage. The next batter struck out. Armando was on the edge of his seat, barely able to contain himself when Ramirez stepped into the batter’s box. One pitch and the entire stadium was on their feet and screaming! Armando knew he would never forget that game-winning home run.

1. What is the tension regarding Armando watching Ramirez at the game?

- A. The coach got them tickets to the game and they sat on the home team’s side.
- B. Armando’s parents lived down the street from Ramirez’s abuela, and he was his favorite player.
- C. The Eagles are behind the Ravens by two runs and Ramirez’s shoulder is injured.**
- D. Armando shares a story about Ramirez and his friends tease him.

Using evidence from the story and your understanding of the word tension, explain why C is the correct answer.

2. Which sentence from the narrative foreshadows that the Eagles would win the game?

- A. George Ramirez was a baseball superhero as far as Armando was concerned.
- B. Armando was ecstatic to see that his favorite player would be in the game when, suddenly, Ramirez had dropped his bat and bent over, holding his shoulder.
- C. As much as he admired Ramirez and wanted to see him play, he understood the importance of Ramirez’s health.

- D. **He also realized that Ramirez was a member of a great team, and it would still be a good game.**

Using evidence from the story and your understanding of the word foreshadowing, explain why D is the correct answer.

3. What is the purpose of including Ramirez's injury?

- A. **To build tension to show the intensity of the game.**
B. To use foreshadowing to show bored Armando's friends were.
C. To use flashback to show how disappointed Armando was.
D. To use suspense to show how brave Ramirez was.

Using evidence from the story and your understanding of the word tension, explain why A is the correct answer.

4. Through the use of suspense, Armando's attitude when Ramirez steps into the batter's box is best described as

- A. Disappointed
B. Determined
C. **Hopeful**
D. Anxious

Using evidence from the story and your understanding of context clues, explain why C is the correct answer.

Part 2: Knowledge of Words Review

Directions:

Think of where you have seen these roots in words. For example, AB is within the word absent. When you are absent from work, you are AWAY FROM work. So, it would be reasonable to conclude that the root AB means “away from” Do your best to match each root to its definition.

- | | | |
|-----------|-----------|------------------------|
| 1. _____ | ab | A. mind |
| 2. _____ | aer | B. far, end |
| 3. _____ | ambi | C. light |
| 4. _____ | aqu | D. live |
| 5. _____ | bio | E. time |
| 6. _____ | geo | F. sound |
| 7. _____ | graph | G. again, back |
| 8. _____ | hemi | H. different, other |
| 9. _____ | heter | I. same |
| 10. _____ | hom | J. earth |
| 11. _____ | hydr | K. draw, write |
| 12. _____ | micr | L. both, on both sides |
| 13. _____ | min | M. heat/warm |
| 14. _____ | phon | N. less, smaller |
| 15. _____ | phos/phot | O. before, in front of |
| 16. _____ | pro | P. dry land |
| 17. _____ | psych | Q. life |
| 18. _____ | re | R. below |
| 19. _____ | semi | S. small |
| 20. _____ | sub | T. half |
| 21. _____ | tele | U. water |
| 22. _____ | tempor | V. half |
| 23. _____ | terr | W. air, atmosphere |
| 24. _____ | therm | X. away from |
| 25. _____ | viv | Y. water |

Context Clues practice Directions: read each sentence and determine the meaning of the word using cross sentence clues or your prior knowledge. Then, explain what clues in the sentence helped you determine the word meaning.

1. **Degrade:** Suzie's mother taught her to never let anyone degrade her, so now she demands respect in all of her relationships.

Definition:

What clues in the sentence lead you to your definition?

2. **Frivolous:** My mom wanted to get the red napkins for the party and my dad wanted the blue napkins, but I'm not even concerned about such frivolous things.

Definition:

What clues in the sentence lead you to your definition?

3. **Discontent:** If we use the red napkins, my mom will be happy but my dad will be discontent.

Definition:

What clues in the sentence lead you to your definition?

4. **Morsel:** The dogs were so hungry that they would have killed one another for a morsel of meat.

Definition:

What clues in the sentence lead you to your definition?

5. **Fretful:** My mom always worries about my grades and the colleges that I'll be able to attend, but if she were a little less fretful she'd be a lot more fun.

Definition:

What clues in the sentence lead you to your definition?

6. **Appall:** John had seen horror movies before, but when he saw Bloodcore 6, he was so appalled by the bloodshed that he wrote the newspapers warning parents not to allow their children to see this movie.

Definition:

What clues in the sentence lead you to your definition?

7. **Wither:** Alice finally threw the withering roses away when a dead petal fell into her cereal bowl.

Definition:

What clues in the sentence lead you to your definition?

8. **Simultaneous:** Few were impressed by Kirstin's presentation, "How to Walk and Chew Gum at the Same Time," even though Kirstin was able to simultaneously walk and chew gum.

Definition:

What clues in the sentence lead you to your definition?

AMI April 20-24

As always, feel free to email me at cristin.dubose@crossettschools.org or text me at 501-580-5360 if you need assistance. Stay Safe!

(History Work April 20-April 24)

Andrew Jackson's Presidency and Legacy Reading and Questions

Directions: Read the Passage and Answer the Question/s

Born in poverty, Andrew Jackson (1767-1845) had become a wealthy Tennessee lawyer and rising young politician by 1812, when war broke out between the United States and Britain. His leadership in that conflict earned Jackson national fame as a military hero, and he would become America's most influential—and polarizing—political figure during the 1820s and 1830s. After narrowly losing to John Quincy Adams in the contentious 1824 presidential election, Jackson returned four years later to win redemption, soundly defeating Adams and becoming the nation's seventh president (1829-1837). As America's political party system developed, Jackson became the leader of the new Democratic Party. A supporter of states' rights and slavery's extension into the new western territories, he opposed the Whig Party and Congress on polarizing issues such as the Bank of the United States (though Andrew Jackson's face is on the twenty-dollar bill). For some, his legacy is tarnished by his role in the forced relocation of Native American tribes living east of the Mississippi.

Andrew Jackson's Early Life

Andrew Jackson was born on March 15, 1767, in the Waxhaws region on the border of North and South Carolina. The exact location of his birth is uncertain, and both states have claimed him as a native son; Jackson himself maintained he was from South Carolina. The son of Irish immigrants, Jackson received little formal schooling. The British invaded the Carolinas in 1780-1781, and Jackson's mother and two brothers died during the conflict, leaving him with a lifelong hostility toward Great Britain.

Did you know? During their invasion of the western Carolinas in 1780-1781, British soldiers took the young Andrew Jackson prisoner. When Jackson refused to shine one officer's boots, the officer struck him across the face with a saber, leaving lasting scars.

Jackson read law in his late teens and earned admission to the North Carolina bar in 1787. He soon moved west of the Appalachians to the region that would soon become the state of Tennessee, and began working as a prosecuting attorney in the settlement that became Nashville. He later set up his own private practice and met and married Rachel (Donelson) Robards, the daughter of a local colonel. Jackson grew prosperous enough to build a mansion, the Hermitage, near Nashville, and to buy slaves. In 1796, Jackson joined a convention charged with drafting the new Tennessee state constitution and became the first man to be elected to the U.S. House of Representatives from Tennessee. Though he declined to seek reelection and returned home in March 1797, he was almost immediately elected to the U.S. Senate. Jackson resigned a year later and was elected judge of Tennessee's superior court. He was later chosen to head the state militia, a position he held when war broke out with Great Britain in 1812.

Andrew Jackson's Military Career

Andrew Jackson, who served as a major general in the War of 1812, commanded U.S. forces in a five-month campaign against the Creek Indians, allies of the British. After that campaign ended in a decisive American victory in the Battle of Tohopeka (or Horseshoe Bend) in Alabama in mid-1814, Jackson led American forces to victory over the British in the Battle of New Orleans (January 1815). The win, which occurred after the War of 1812 officially ended but before news of the Treaty of Ghent had reached Washington, elevated Jackson to the status of national war hero. In 1817, acting as commander of the army's southern district, Jackson ordered an invasion of Florida. After his forces captured Spanish posts at St. Mark's and Pensacola, he claimed the surrounding land for the United States. The Spanish government vehemently protested, and Jackson's actions sparked a heated debate in Washington. Though many argued for Jackson's censure, Secretary of State John Quincy Adams defended the general's actions, and in the end they helped speed the American acquisition of Florida in 1821.

Jackson's popularity led to suggestions that he run for president. At first he professed no interest in the office, but by 1824 his boosters had rallied enough support to get him a nomination as well as a seat in the U.S. Senate. In a five-way race, Jackson won the popular vote, but for the first time in history no candidate received a majority of electoral votes. The House of Representatives was charged with deciding between the three leading candidates: Jackson, Adams and Secretary of the Treasury William H. Crawford. Critically ill after a stroke, Crawford was essentially out, and Speaker of the House Henry Clay (who had finished fourth) threw his support behind Adams, who later made Clay his secretary of state. Jackson's supporters raged against what they called the "corrupt bargain" between Clay and Adams, and Jackson himself resigned from the Senate.

Andrew Jackson In the White House

Andrew Jackson won reelection four years later in an election that was characterized to an unusual degree by negative personal attacks. Jackson and his wife were accused of adultery on the basis that Rachel had not been legally divorced from her first husband when she married Jackson. Shortly after his victory in 1828, the shy and pious Rachel Jackson died at the Hermitage; Jackson apparently believed the negative attacks had hastened her death. The Jacksons did not have any children but were close to their nephews and nieces, and one niece, Emily Donelson, would serve as Jackson's hostess in the White House.

Jackson was the nation's first frontier president, and his election marked a turning point in American politics, as the center of political power shifted from East to West. "Old Hickory" was an undoubtedly strong personality, and his supporters and opponents would shape themselves into two emerging political parties: The pro-Jacksonites became the Democrats (formally Democrat-Republicans) and the anti-Jacksonites (led by Clay and Daniel Webster) were known as the Whig Party. Jackson made it clear that he was the absolute ruler of his administration's policy, and he did not defer to Congress or hesitate to use his presidential veto power. For their

part, the Whigs claimed to be defending popular liberties against the autocratic Jackson, who was referred to in negative cartoons as “King Andrew I.”

Bank of the United States and Crisis in South Carolina

A major battle between the two emerging political parties involved the Bank of the United States, the charter of which was due to expire in 1832. Andrew Jackson and his supporters opposed the bank, seeing it as a privileged institution and the enemy of the common people; meanwhile, Clay and Webster led the argument in Congress for its recharter. In July, Jackson vetoed the recharter, charging that the bank constituted the “prostration of our Government to the advancement of the few at the expense of the many.” Despite the controversial veto, Jackson won reelection easily over Clay, with more than 56 percent of the popular vote and five times more electoral votes.

Though in principle Jackson supported states’ rights, he confronted the issue head-on in his battle against the South Carolina legislature, led by the formidable Senator John C. Calhoun. In 1832, South Carolina adopted a resolution declaring federal tariffs passed in 1828 and 1832 null and void and prohibiting their enforcement within state boundaries. While urging Congress to lower the high tariffs, Jackson sought and obtained the authority to order federal armed forces to South Carolina to enforce federal laws. Violence seemed imminent, but South Carolina backed down, and Jackson earned credit for preserving the Union in its greatest moment of crisis to that date. Jackson survived an assassination attempt on January 30, 1835, beating his would-be assassin, Richard Lawrence, with his walking cane. Andrew Jackson died at his home, the Hermitage, of congestive heart failure on June 8, 1845.

Andrew Jackson’s Legacy

In contrast to his strong stand against South Carolina, Andrew Jackson took no action after Georgia claimed millions of acres of land that had been guaranteed to the Cherokee Indians under federal law, and he declined to enforce a U.S. Supreme Court ruling that Georgia had no authority over Native American tribal lands. In 1835, the Cherokees signed a treaty giving up their land in exchange for territory west of Arkansas, where in 1838 some 15,000 would head on foot along the so-called Trail of Tears. The relocation resulted in the deaths of thousands.

As a slave-owner himself, Jackson opposed policies that would have outlawed slavery in western territories as the United States expanded. When abolitionists attempted to send anti-slavery tracts to the South during his presidency, he banned their delivery, calling them monsters that should “atone for this wicked attempt with their lives.”

In the 1836 election, Jackson’s chosen successor Martin Van Buren defeated Whig candidate William Henry Harrison, and Old Hickory left the White House even more popular than when he had entered it. Jackson’s success seemed to have vindicated the still-new democratic experiment, and his supporters had built a well-organized Democratic Party that would become

a formidable force in American politics. After leaving office, Jackson retired to the Hermitage, where he died in June 1845.

Questions:

1. What political party did Andrew Jackson belong to and what was he a supporter of?
2. Why did Jackson hate Great Britain so much?
3. How did Andrew Jackson gain his popularity?
4. Why was Jackson called "King Andrew I"?
5. What arguments were made for and against the creation of the Bank of the United States? (In other words, why did one side want it and why did the other side not want it?)
6. What 2 things in the last section about Jackson's Legacy made him look negative?

Different Representations of Linear Relationships 8th Gr Math

There are 4 representations of linear relationships **description, equation, table and graphs**. Below are the 4 representations showing the same relationship.

Description

The carnival charges \$5 to get in the gate and it charges \$2 for each ride you ride.

- Pick out the slope and the y-intercept.
 - The slope is often followed by key words such as each, every, per, etc.
 - The slope is 2
 - The y-intercept is described as a one time fee, a gate fee, or something that happens one time.
 - The intercept is 5
- You will use the equation $y=mx+b$

Equation

$$y = 2x + 5$$

- Using $y=mx+b$ you will put information into the equation.
 - y = the total cost
 - m = slope
 - x = # of times something happens
 - b = the y-intercept

Graph - Drawing on the back or next page.

- a graph uses the slope and intercept to draw a line.
 - The intercept tells where to start on the y axis and
 - the slope tells how far up and over the point should go.

TABLE

x	y
0	5
1	7
2	9
3	11

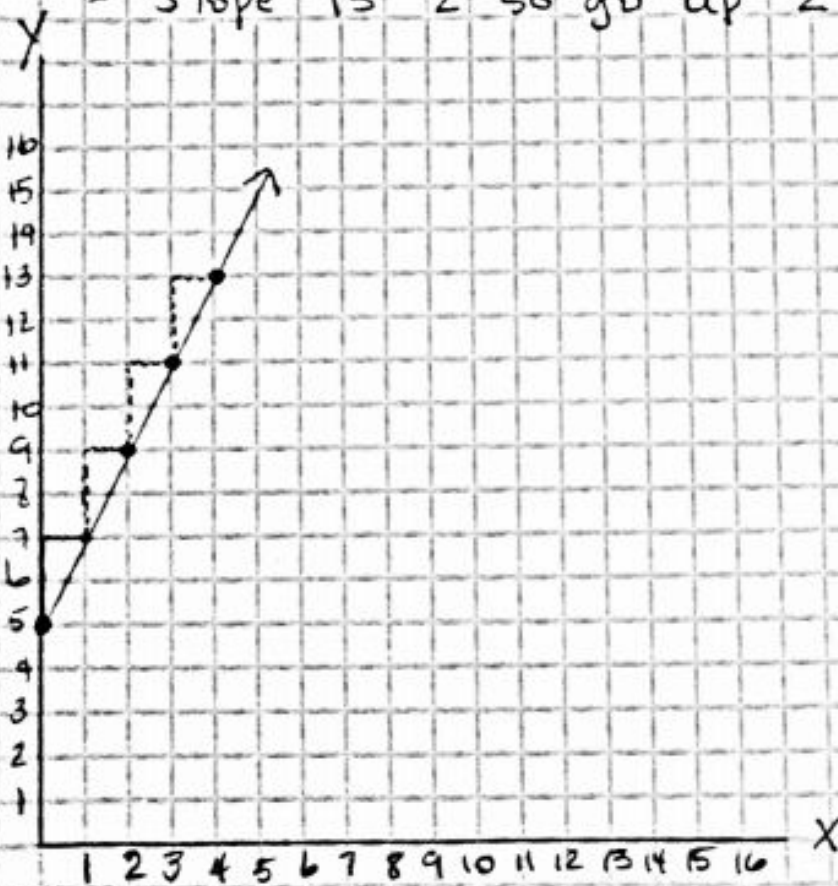
- A table shows the coordinate points. The x and y columns represent the change in x and y and you are looking to see if the change is the same on each side.
 - Remember slope is the vertical change/horizontal change.
 - Also remember when $x=0$ the y value is the y intercept.

Graph

$$y = 2x + 5$$

- Start with 5 on y-axis

- Slope is 2 so go up 2 and over 1



Name: _____ Class: _____ Date: _____

Road Trip!

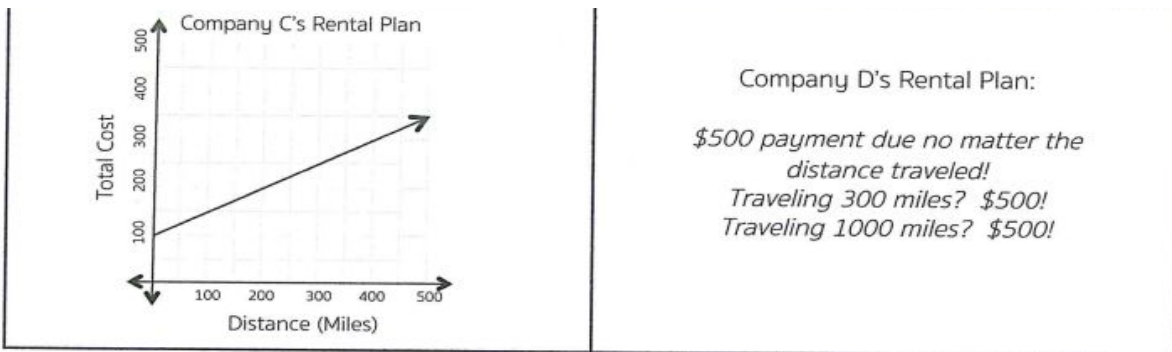
Modeling and Analyzing Linear Relationships

Landon and his family are planning a road trip. They need to rent a car, and they are considering four different rental companies. The information they received about the companies is organized below.

Company A's Rental Plan	
Distance (Miles)	Total Cost
0	200
500	300
750	350

Company B's Rental Plan:

We have no initial fee! The more you drive, the more you pay. Each mile driven costs \$0.75.



a) Write an equation to model each of the rental plans. Let m =distance (miles) and C =total cost.

A $C = \underline{\quad}m + \underline{\quad}$	B
C	D

b) Consider the equations you created above. State the meaning of the slope and the y-intercept in the context of the rental plans.

Slope-Intercept Form Word Problems

Name: _____ Date: _____

1. In order to join a dancing club, there is a \$30 startup fee and a \$4 monthly fee. Write an equation in slope-intercept form that models this situation.

Slope: 4

y-intercept: 30

Equation: $y = 4x + 30$

2. In order to join an online learning community, there is a \$20 startup fee and a \$5 monthly fee. Write an equation in slope-intercept form that models this situation.

5. The U.S. Bureau of the Census predicted that the population of Florida would be about 17.4 million in 2010 and then would increase by about 0.22 million per year until 2015. Which of the following linear models predicts the population, y , of Florida (in millions) in terms of x , the number of years since 2010.

- A. $y = 17.4x + 0.22$
- B. $y = -0.22x + 17.4$
- C. $y = 0.22x + 17.4$
- D. $y = -17.4x + 0.22$

Slope:

Intercept:

Equation:

3. In order to become a member of the library-all-star-members club, there is a \$40 sign-up fee and a \$2 monthly fee. Write an equation in slope-intercept form that models this situation.

Slope:

Intercept:

Equation:

4. Use equation you wrote in problem 3 to find the total cost of being an all-star library member for 19 months.

6. Suppose that a bike rents for \$4 plus \$1.50 per hour. Write an equation in slope-intercept form that models this situation.

7. Use the equation you wrote in problem 6 to complete the table.

Hours (x)	2	4	6	8
Total Cost (y)				