Southport

7th grade

Mr. Murphy
7th Grade ELA

"Getting Along" Study Sync Unit

Read: The Teacher Who Changed My Life (p. 9 - 14)
Answer: #1-3 p. 14

Read: The Miracle Worker (p. 17 - 23)
Answer: #1-3 p. 23

Read: Amigo Brothers (p. 35 - 43)
Answer: #1-3 p. 43

Read: Thank You, Ma'm (p. 45-49)
Answer: #1-3 p. 50

Read: The Dangers of Social Media (p. 59-62)
Answer: #1-3 p. 63

Read: My Antonia (p. 65-69)
Answer: #1-3 p. 70

Read: The Ransom of Red Chief (p. 79-89)
Answer: #1-3 p. 89

Read: Oranges (p. 91-93)
Answer: #1-3 p. 94

Name _____

18.2

Adding and Subtracting with Negative Numbers

Can you add and subtract negative numbers? Yes, but to do this you have to know about **absolute value**. Absolute value is the number without its sign. It represents the distance between the number and 0 on the number line.

Examples:

$-10 + 7 = -3$ $\quad -6 + 8 = 2$

$(-3) + (-8) = -11$

Remember...

To subtract one negative number from another, change the second number to its inverse and *add*.

To add two negative numbers, add their absolute values, and put a minus sign in front of the total. To add a negative and a positive number, find their absolute values, then subtract the smaller one from the greater one. Your answer will have the same sign as the number with the greater absolute value.

Examples:

$(-6) - (+7)$ equals $(-6) + (-7) = -13$

$(-3) - (-8) = 5$ equals $(-3) + (+8) = 5$

$(-8) + (+3) = -5$ equals $(-8) - (-3) = -5$

Exercises

1. $17 + (-3) =$ _____
2. $(-15) + 6 =$ _____
3. $1 + (-12) =$ _____
4. $75 + (-36) =$ _____
5. $110 + (-56) + 14 =$ _____
6. $95 + (-65) + (-1) =$ _____
7. $(-20) + (-20) + 7 =$ _____
8. $51 + (-33) + 20 =$ _____
9. $30 + (-22) =$ _____
10. $18 + 18 + (-18) =$ _____
11. $(-25) + 14 =$ _____
12. $80 + 13 + 29 + (-100) =$ _____
13. $57 + (-39) + 10 =$ _____
14. $(-23) + 63 + (-9) =$ _____
15. $4 + 2 + (-7) + (-1) =$ _____
16. $1 + (-9) + 9 =$ _____

18.3

Name _____

Multiplying and Dividing with Negative Numbers

Negative numbers can also be multiplied and divided. You need to remember these two rules:

- When two numbers have the same sign, either negative or positive, their product or quotient is *positive.*
- When two numbers have different signs, one negative and one positive, their product or quotient is *negative.*

Examples:

$5 \times 4 = 20$ $\quad (-5) \times (-4) = 20$

$(-5) \times 4 = -20$ $\quad 5 \times (-4) = -20$

$6 \div 2 = 3$ $\quad (-6) \div (-2) = 3$

$(-6) \div 2 = -3$ $\quad 6 \div (-2) = -3$

Exercises

1. $5 \times (-3) =$ _____
2. $13 \times (-10) =$ _____
3. $100 \times (-1) =$ _____
4. $23 \times (-3) =$ _____
5. $15 \times (-15) =$ _____
6. $(-12) \times 20 =$ _____
7. $(-2) \times (-4) =$ _____
8. $(-1) \times 1 =$ _____
9. $(-125) \times (-1) =$ _____
10. $(-3) \times 103 =$ _____
11. $(-20) \div 20 =$ _____
12. $(-22) \times 0 =$ _____
13. $(-3) \times (-1) =$ _____
14. $(-12) \div 4 =$ _____
15. $15 \div (-3) =$ _____
16. $(-27) \div (-9 \div \frac{1}{9}) =$ _____

Name _____

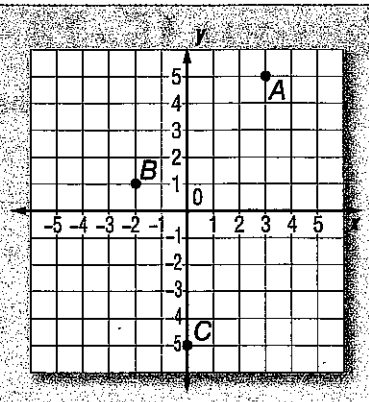
18.4

Plotting Ordered Pairs

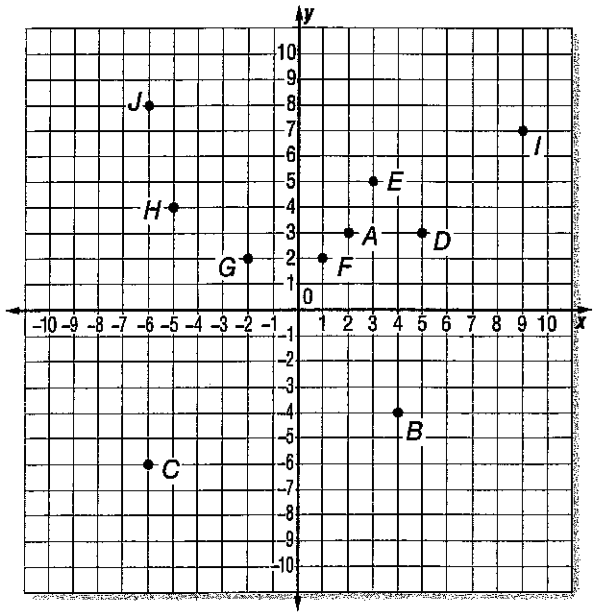
Can you make a graph that uses number lines? Yes. You can use one number line horizontally as the x-axis, and one number line vertically as the y-axis. On a graph, two numbers can express a point. Each of the two numbers can be positive or negative. The first number locates the point on the x-axis. The second number locates the point on the y-axis.

Example:

In this example, Point A is written as (3,7). Point B is (−2,1). And Point C is (0,−5).



Exercises



Give the coordinates for each point on the graph.

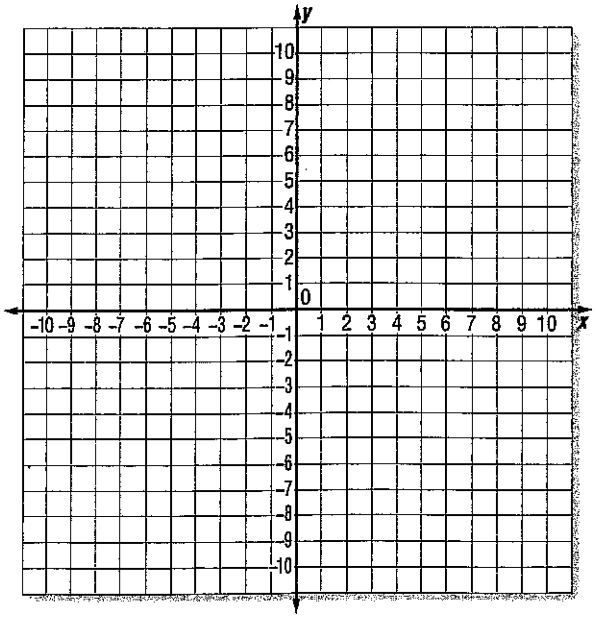
A _____ B _____

C _____ D _____

E _____ F _____

G _____ H _____

I _____ J _____



Plot the following ordered pairs on the graph:

A (3,2) B (7,−7)

C (−7,−7) D (−7,7)

E (7,7) F (9,2)

G (6,7) H (−8,−6)

I (−2,2) J (−5,−5)

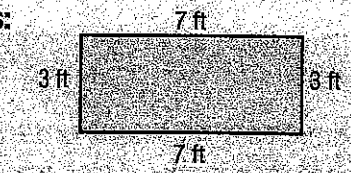
K (3,−4) L (−2,−2)

Name _____

Area

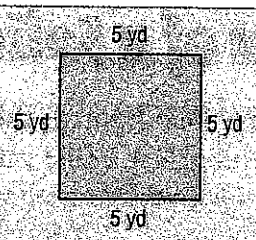
To calculate a figure's **area**, you need to know what to call those units. The units used in describing area are: square inches, square feet, square yards, or even square miles. Remember, however, that a square foot does *not* equal 12 square inches; and a square yard does *not* equal 3 square feet; and a square mile does *not* equal 1,760 square yards.

Examples:



7 ft × 3 ft = 21 square ft

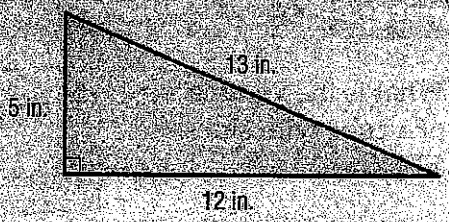
The area of a rectangle is its length (*l*) × its width (*w*).



5 yd × 5 yd = 25 sq yd

A square is a special kind of rectangle, with all of its sides equal in length.

You may remember that a number to the second power, or a number multiplied once by itself, is called "squared."



$\frac{1}{2}$ × 5 in. × 12 in. = 30 sq in.

The area of a triangle is $\frac{1}{2}$ × its base (*b*) × its height (*h*).

Exercises

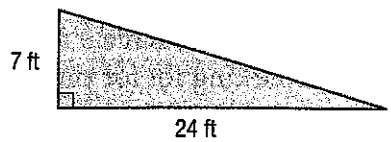
1. How many people can you allow on a beach if the lifeguards want to have 30 sq ft per person and the beach is 1,000 ft long and 200 ft wide? Round to a whole number.

_____

2. A square that has sides of 25 ft is split in half down the middle. What is the area of each of the pieces?

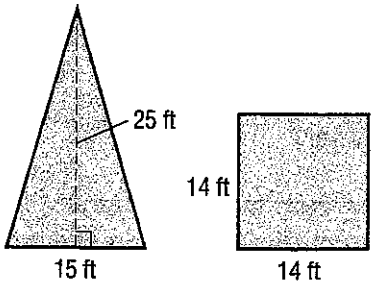
_____

3. A right triangle has a base of 24 feet and a height of 7 feet. What is its area?



_____

4. Which has a larger area, a triangle with a base of 15 ft and a height of 25 ft or a square with sides of 14 ft?



_____

Name _____

5.2

Multiplying Fractions; Reciprocals

Is it complicated to multiply two fractions? No, it is easy if you know how to multiply whole numbers. Just multiply the numerators to get the numerator of the product. Then multiply the denominators to get the denominator of the product.

Example: $\frac{3}{5} \times \frac{8}{9}$

Step 1: Multiply the numerators and the denominators. $3 \times 8 = 24$, $5 \times 9 = 45$

Step 2: $\frac{3}{5} \times \frac{8}{9} = \frac{24}{45}$

If the fractions are **reciprocals**, you do not even have to multiply at all! Reciprocals are two fractions that look like each other upside-down. The numerator of the first is the denominator of the second and the numerator of the second is the denominator of the first.

The product of reciprocals is *always* 1.

Examples:

$\frac{2}{3} \times \frac{3}{2} = 1$ $\quad \frac{43}{50} \times \frac{50}{43} = 1$ $\quad \frac{987}{106} \times \frac{106}{987} = 1$

Exercises

1. $\frac{1}{2} \times \frac{2}{3}$
2. $\frac{5}{7} \times \frac{3}{8}$
3. $\frac{20}{21} \times \frac{2}{5}$
4. $\frac{3}{2} \times \frac{3}{2}$
5. $\frac{2}{3} \times \frac{3}{2}$
6. $\frac{7}{4} \times \frac{16}{3}$
7. $\frac{5}{9} \times \frac{90}{10}$
8. $\frac{4}{7} \times \frac{3}{28}$
9. $\frac{3}{11} \times \frac{11}{3}$
10. $\frac{12}{13} \times \frac{39}{2}$
11. $\frac{3}{8} \times \frac{2}{13}$
12. $\frac{7}{8} \times \frac{16}{3}$
13. $\frac{81}{7} \times \frac{1}{9}$
14. $\frac{7}{3} \times \frac{3}{14}$
15. $\frac{15}{16} \times \frac{3}{5}$
16. $\frac{10}{13} \times \frac{52}{7}$

Name _____

Dividing Fractions by Fractions

How do you divide a fraction by another fraction? Can you multiply by a reciprocal in that kind of problem? Yes! You multiply the first fraction by the reciprocal of the second.

Example: $\frac{3}{10} \div \frac{2}{3}$

$\frac{3}{10} \times \frac{3}{2} = \frac{9}{20}$

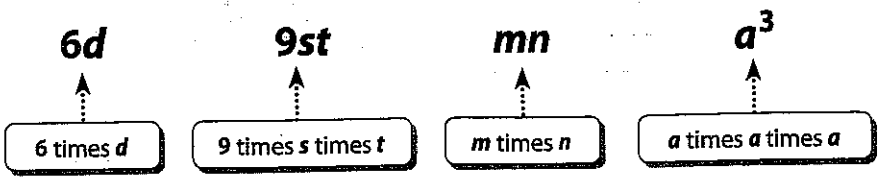
Exercises

1. $\frac{5}{7} \div \frac{3}{4}$
2. $\frac{2}{3} \div \frac{2}{7}$
3. $\frac{1}{9} \div \frac{3}{7}$
4. $\frac{3}{4} \div \frac{1}{9}$
5. $\frac{3}{13} \div \frac{2}{9}$
6. $\frac{1}{9} \div \frac{1}{3}$
7. $\frac{2}{13} \div \frac{1}{5}$
8. $\frac{3}{13} \div \frac{2}{13}$
9. $\frac{4}{3} \div \frac{1}{4}$
10. $\frac{15}{4} \div \frac{4}{3}$
11. $\frac{6}{7} \div \frac{1}{7}$
12. $\frac{3}{17} \div \frac{4}{17}$
13. $\frac{1}{11} \div \frac{22}{3}$
14. $\frac{3}{7} \div \frac{1}{21}$
15. $\frac{5}{14} \div \frac{1}{7}$
16. $\frac{3}{4} \div \frac{8}{3}$

Work Zone

Evaluate an Algebraic Expression

The branch of mathematics that involves expressions with variables is called [redacted]. In algebra, the multiplication sign is often omitted.



The numerical factor of a multiplication expression that contains a variable is called a [redacted]. So, 6 is the coefficient of $6d$.

Expressions like $\frac{y}{2}$ can be written as $y \div 2$ or $y \times \frac{1}{2}$.

Watch Tutor

1. **Evaluate $2(n + 3)$ if $n = -4$.**

$2(n + 3) = 2(-4 + 3)$ Replace n with -4.

$= 2(-1)$ Evaluate inside the parentheses.

$= -2$ Multiply.

2. **Evaluate $8w - 2v$ if $w = 5$ and $v = 3$.**

$8w - 2v = 8(5) - 2(3)$ Replace w with 5 and v with 3.

$= 40 - 6$ Do all of the multiplication first.

$= 34$ Subtract 6 from 40.

3. **Evaluate $4y^3 + 2$ if $y = 3$.**

$4y^3 + 2 = 4(3)^3 + 2$ Replace y with 3.

$= 4(27) + 2$ Evaluate the power.

$= 110$ Multiply, then add.

Got It? Do these problems to find out.

Evaluate each expression if $c = 8$ and $d = -5$.

a. $c - 3$ **b.** $15 - c$ **c.** $3(c + d)$

d. $2c - 4d$ **e.** $d - c^2$ **f.** $2d^2 + 5d$

Order of Operations

1. Evaluate the expressions inside grouping symbols.
2. Evaluate all powers.
3. Multiply and divide in order from left to right.
4. Add and subtract in order from left to right.

a. _____

b. _____

c. _____

Show your work.

d. _____

e. _____

f. _____

Tutor

Athletic trainers use the formula $\frac{3(220 - a)}{5}$, where a is a person's age, to find their minimum training heart rate. Find Latrina's minimum training heart rate if she is 15 years old.

$$\frac{3(220 - a)}{5} = \frac{3(220 - 15)}{5}$$ Replace a with 15.

$$= \frac{3(205)}{5}$$ Subtract 15 from 220.

$$= \frac{615}{5}$$ Multiply 3 and 205.

$$= 123$$ Divide 615 by 5.

Latrina's minimum training heart rate is 123 beats per minute.

Got It? Do this problem to find out.

g. To find the area of a triangle, use the formula $\frac{bh}{2}$, where b is the base and h is the height. What is the area in square inches of a triangle with a height of 6 inches and base of 8 inches?

Fractions
The fraction bar is a grouping symbol. Evaluate the expressions in the numerator and denominator separately before dividing.

Show your work.

g. _____

Write Expressions

To translate a verbal phrase into an algebraic expression, the first step is to define a variable. When you define a variable, you choose a variable to represent an unknown quantity.

Real World

Tutor

5. Marisa wants to buy a DVD player that costs $150. She already saved $25 and plans to save an additional $10 each week. Write an expression that represents the total amount of money Marisa has saved after any number of weeks.

Words	savings of $25 plus ten dollars each week
Variable	Let w represent the number of weeks.
Expression	$25 + 10 \cdot w$

$25 + 10w$ represents the total saved after any number of weeks.

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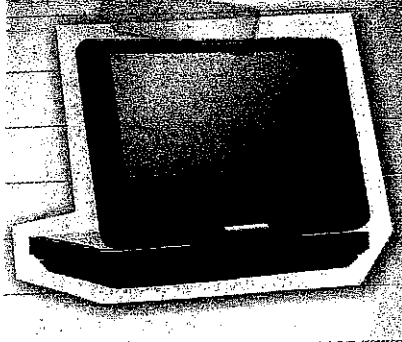


6. **Refer to Example 5. Will Marisa have saved enough money to buy the $150 DVD player in 11 weeks? Use the expression $25 + 10w$.**

$25 + 10\boldsymbol{w} = 25 + 10\mathbf{(11)}$ Replace w with 11.

$= 25 + 110$ Multiply.

$= 135$ Add.

Marisa will have saved $135 after 11 weeks. Since $135 < $150, Marisa will not have enough money to buy the DVD player.

Got It? Do this problem to find out.

h. An MP3 player costs $70 and song downloads cost $0.85 each. Write an expression that represents the cost of the MP3 player and x number of downloaded songs. Then find the total cost if 20 songs are downloaded.

Show your work.

h.

Guided Practice

Check

Evaluate each expression if $m = 2$, $n = 6$, and $p = -4$. (Examples 1–4)

1. $3m + 4p$ _____

2. $n^2 + 5$ _____

3. $6p^3$ _____

Show your work.

4. A Web site charges $0.99 to download a game and a $12.49 membership fee. Write an expression that gives the total cost in dollars to download g games. Then find the cost of downloading 6 games. (Examples 5 and 6)

5. **Building on the Essential Question** Tell whether the statement below is *sometimes*, *always*, or *never* true. Justify your reasoning.

The expressions $x - 3$ and $y - 3$ represent the same value.

Rate Yourself!

How well do you understand algebraic expressions? Circle the image that applies.

Clear Somewhat Clear Not So Clear

For more help, go online to access a Personal Tutor.

Independent Practice

Go online for Step-by-Step Solutions eHelp

Evaluate each expression if $d = 8$, $e = 3$, $f = 4$, and $g = -1$. (Examples 1 – 3)

1. $2(d + 9)$ _____

Show your work

2. $\frac{d}{4}$

3. $\frac{ef}{4}$

4. $4f + d$ _____

5. $\frac{5d - 25}{5}$

6. $d^2 + 7$

7. $\frac{d - 4}{2}$ _____

8. $10(e + 7)$

9. $\frac{2g}{2}$

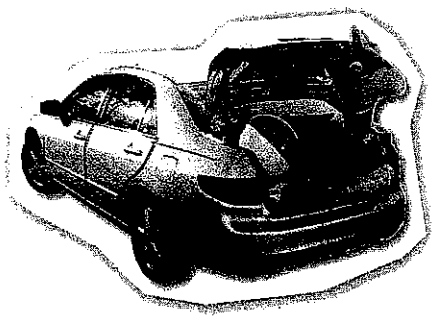
10. The expression $5n + 2$ can be used to find the total cost in dollars of bowling where n is the number of games bowled and 2 represents the cost of shoe rental. How much will it cost Vincent to bowl 3 games? (Example 4)

_____

11 CCSS **Reason Abstractly** A car rental company's fees are shown. Suppose you rent a car using Option 2. Write an expression that gives the total cost in dollars for driving m miles. Then find the cost for driving 150 miles. (Examples 5 and 6)

Car Rental Fees	
Option 1	**Option 2**
\$19.99 per day	\$50 fee
\$0.17 per mi	\$0.17 per mi

12. Refer to Exercise 11. Suppose you rent a car using Option 1. Write an expression that gives the total cost in dollars to rent a car for d days and m miles. Then find the cost for renting a car for 2 days and driving 70 miles. (Examples 5 and 6)



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Lesson 1

Solve One-Step Addition and Subtraction Equations

What You'll Learn

By the end of the lesson, write the definitions of equation and equivalent equations.

- _____
- _____
- _____

Essential Question

WHAT does it mean to say two quantities are equal?

Vocabulary

equation
solution
equivalent equation
Subtraction Property of Equality
Addition Property of Equality

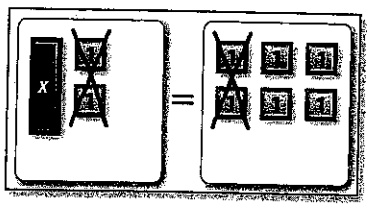
Common Core State Standards

Content Standards
7.EE.4, 7.EE.4a

Mathematical Practices
1, 2, 3, 4, 5

Vocabulary Start-Up

An **equation** is a sentence stating that two quantities are equal. The value of a variable that makes an equation true is called the **solution** of the equation.

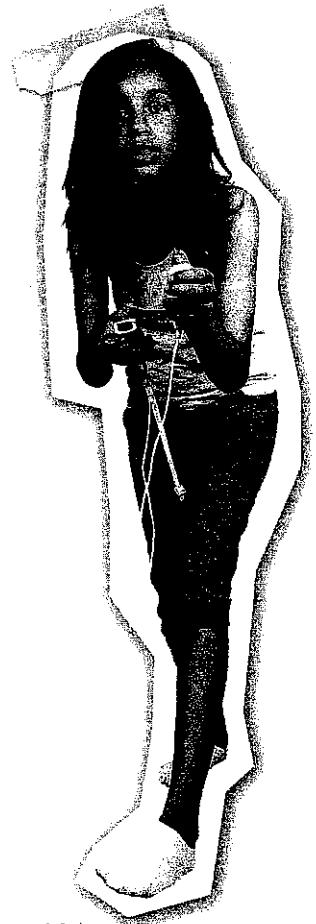


$$\begin{aligned} x + 2 &= 6 \\ -2 &= -2 \\ \hline x &= 4 \end{aligned}$$

The equations $x + 2 = 6$ and $x = 4$ are **equivalent equations** because they have the same solution, 4.

Circle the equations below that are equivalent to $x = 3$. Use algebra tiles if needed.

$x + 3 = 6$	$x + 1 = 6$	$x + 6 = 8$
$x + 3 = 3$	$x + 1 = 4$	$x + 2 = 5$



Real-World Link

Video Games Robyn had some video games, and then she bought 4 more games. Now she has 10 games. This scenario can be described using the equation $x + 4 = 10$.

1. What does x represent in the equation?

2. Write two different equations that are equivalent to $x + 4 = 10$.

Key Concept

Subtraction Property of Equality

Words The **Subtraction Property of Equality** states that the two sides of an equation remain equal when you subtract the same number from each side.

Symbols If $a = b$, then $a - c = b - c$.

Work Zone

You can use bar diagrams and the *work backward* problem-solving strategy to solve equations arithmetically. Or, you can use the properties of equality to solve equations algebraically.

Tutor

Examples

1. **Solve $x + 6 = 4$. Check your solution.**

$$\begin{array}{rcl} x + 6 & = & 4 \\ -6 & = & -6 \\ \hline x & = & -2 \end{array}$$

Check $x + 6 = 4$

$-2 + 6 \stackrel{?}{=} 4$

$4 = 4$ ✓

So, the solution is -2.

Solutions
Notice that your new equation, $x = -2$, has the same solution as the original equation, $x + 6 = 4$.

2. **Solve $-5 = b + 8$. Check your solution.**

$$\begin{array}{r} -5 = b + 8 \\ -8 = \quad -8 \\ \hline -13 = b \end{array}$$

Check $-5 = b + 8$

$-5 \stackrel{?}{=} -13 + 8$

$-5 = -5$ ✓

So, the solution is -13.

Show your work.

Got It? **Do these problems to find out.**

Solve each equation. Check your solution.

a. $y + 6 = 9$ **b.** $x + 3 = 1$ **c.** $-3 = a + 4$

a. _____

b. _____

c. _____

Real World Example

Watch Tutor

3. **An angelfish can grow to be 12 inches long. If an angelfish is 8.5 inches longer than a clown fish, how long is a clown fish?**

Words	An angelfish is 8.5 inches longer than a clown fish.
Variable	Let c represent the length of the clown fish.
Equation	$12 = c + 8.5$

$12 = c + 8.5$ Write the equation.

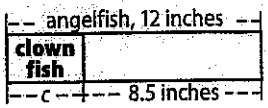
$-8.5 = -8.5$ Subtraction Property of Equality

$3.5 = c$ Simplify.

A clown fish is 3.5 inches long.

Solve Arithmetically

You can use a bar diagram to solve an equation arithmetically.



Work backward to solve for c.

$c = 12 - 8.5 = 3.5$

Got It? Do this problem to find out.

Show your work.

d. The highest recorded temperature in Warsaw, Missouri, is 118°F. This is 158° greater than the city's lowest recorded temperature. Find the lowest recorded temperature.

d. _____

Addition Property of Equality

Key Concept

Words	The **Addition Property of Equality** states that the two sides of an equation remain equal when you add the same number to each side.
Symbols	If $a = b$, then $a + c = b + c$.

Example

Tutor

4. **Solve $x - 2 = 1$. Check your solution.**

$x - 2 = 1$ Write the equation.

$+2 = +2$ Addition Property of Equality

$x = 3$ Simplify.

The solution is 3. **Check** $3 - 2 = 1$ ✓

Got It? Do these problems to find out.

Show your work.

e. $y - 3 = 4$ **f.** $r - 4 = -2$ **g.** $q - 8 = -9$

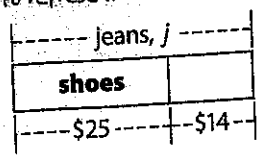
e. _____

f. _____

g. _____

Models

A bar diagram can be used to represent this situation.



$j = 25 + 14 = 39$

Example

Tutor

5. A pair of shoes costs $25. This is $14 less than the cost of a pair of jeans. Find the cost of the jeans.

Shoes are $14 less than jeans. Let j represent the cost of jeans.

$$25 = j - 14$$
$$+14 = \quad +14$$
$$39 = j$$

The jeans cost $39.

Got It? Do this problem to find out.

Show your work.

h. The average lifespan of a tiger is 17 years. This is 3 years less than the average lifespan of a lion. Write and solve an equation to find the average lifespan of a lion.

h. _____

Guided Practice

Check

Solve each equation. Check your solution. (Examples 1, 2, and 4)

1. $n + 6 = 8$

2. $7 = y + 2$

3. $-7 = c - 6$

Show your work.

4. Orville and Wilbur Wright made the first airplane flights in 1903. Wilbur's flight was 364 feet. This was 120 feet longer than Orville's flight. Write an equation to represent the flights. Use a bar diagram if needed. Then solve to find the length of Orville's flight. (Examples 3 and 5)

5. Building on the Essential Question What are two methods for solving a real-world problem that can be represented by an equation?

Rate Yourself!

I understand how to solve one-step addition and subtraction equations.

Great! You're ready to move on!

I still have some questions about solving equations.

No Problem! Go online to access a Personal Tutor. Tutor

Name _____ My Homework _____

Independent Practice

Go online for Step-by-Step Solutions eHelp

Solve each equation. Check your solution. (Examples 1, 2, and 4)

1. $a + 3 = 10$

Show your work.

2. $y + 5 = -11$

3. $s - 8 = 9$

4. $5 = x + 8$

5. $-2 = p - 1$

6. $14 = s + 7$

Use a bar diagram to solve arithmetically. Then use an equation to solve algebraically. (Examples 3 and 5)

7. Last week Tiffany practiced her bassoon a total of 7 hours. This was 2 hours more than she practiced the previous week. How many hours did Tiffany practice the previous week?

8. In a recent presidential election, Ohio had 18 electoral votes. This is 20 votes less than Texas had. How many electoral votes did Texas have?

9. **Multiple Representations** Use the table to solve.

Tallest Wooden Roller Coasters	Height (feet)	Drop (feet)	Speed (mph)
Colossos	h	159	68
T Express	184	151	65
El Toro	181	176	s
Voyage	163	d	67

a. **Symbols** The difference in speeds of El Toro and T Express is 5 miles per hour. If El Toro has the greater speed, write and solve a subtraction equation to find its speed.

b. **Diagram** Voyage has a drop that is 22 feet less than El Toro. Draw a bar diagram to the right and write an equation to find the height of Voyage.

c. **Words** Let h represent the height of the Colossos roller coaster. Explain why $h - 13 = 184$ and $h - 34 = 163$ are equivalent equations. Then explain the meaning of the solution.

Show your work.

Lesson 2

Multiplication and Division Equations

What You'll Learn

Essential Question

WHAT does it mean to say two quantities are equal?

Vocabulary

coefficient
Division Property of Equality
Multiplication Property of Equality

Common Core State Standards

Content Standards
7.EE.4, 7.EE.4a

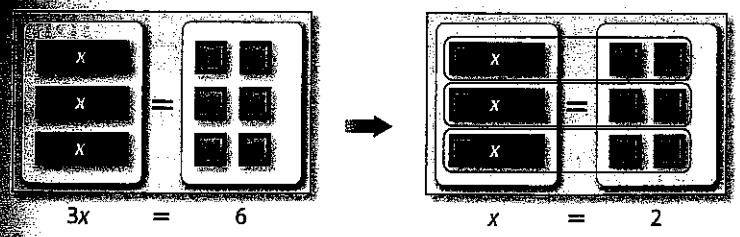
Mathematical Practices
1, 2, 3, 4, 7

Vocabulary Start-Up

Watch Tools Vocab

The expression $3x$ means *3 times the value of x*. The numerical factor of a multiplication expression like $3x$ is called a **coefficient**. So, 3 is the coefficient of x.

The figure below illustrates the multiplication equation $3x = 6$.

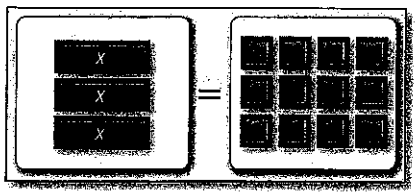


Since there are 3 *x*s, each *x* is matched with 2.

The solution of $3x = 6$ is 2.

Write an equation that represents each of the models below. Identify the coefficient in your equation. Then solve.

1.

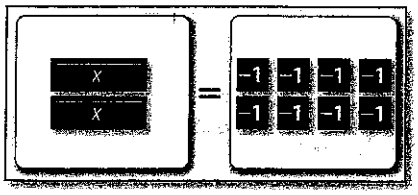


Equation: _____

Coefficient: ☐

Solution: ☐

2.



Equation: _____

Coefficient: ☐

Solution: ☐

Key Concept

Division Property of Equality

Words The **Division Property of Equality** states that the two sides of an equation remain equal when you divide each side by the same nonzero number.

Symbols If $a = b$ and $c \neq 0$, then $\frac{a}{c} = \frac{b}{c}$.

Work Zone

You can use the Division Property of Equality to solve multiplication equations.

Tutor

Examples

1. Solve $20 = 4x$. Check your solution.

$20 = 4x$ Write the equation.

$\frac{20}{4} = \frac{4x}{4}$ Division Property of Equality

$5 = x$ Simplify.

Check $20 = 4x$ Write the original equation.

$20 \stackrel{?}{=} 4(5)$ Replace x with 5.

$20 = 20$ ✓ This sentence is true.

So, the solution is 5.

2. Solve $-8y = 24$. Check your solution.

$-8y = 24$ Write the equation.

$\frac{-8y}{-8} = \frac{24}{-8}$ Division Property of Equality

$y = -3$ Simplify.

Check $-8y = 24$ Write the original equation.

$-8(-3) \stackrel{?}{=} 24$ Replace y with -3.

$24 = 24$ ✓ This sentence is true.

So, the solution is -3.

Show your work.

a. _____

b. _____

c. _____

Got It? Do these problems to find out.

Solve each equation. Check your solution.

a. $30 = 6x$ **b.** $-6a = 36$ **c.** $-9d = -72$

Example

Tutor

3. **Lelah sent 574 text messages last week. On average, how many messages did she send each day?**

Let m represent the number of messages Lelah sent.

$574 = 7m$

$\frac{574}{7} = \frac{7m}{7}$

$82 = m$

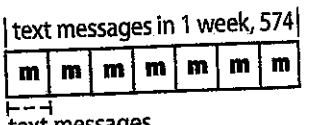
Lelah sent 82 messages on average each day.

Got It? **Do this problem to find out.**

d. Mrs. Acosta's car can travel an average of 24 miles on each gallon of gasoline. Write and solve an equation to find how many gallons of gasoline she will need for a trip of 348 miles.

Solve Arithmetically

You can use a bar diagram to solve an equation arithmetically.



Work backward to solve for m.

$m = 574 \div 7 = 82$

Show your work.

d. _____

Multiplication Property of Equality

Key Concept

Words The **Multiplication Property of Equality** states that the two sides of an equation remain equal if you multiply each side by the same number.

Symbols If $a = b$, then $ac = bc$.

You can use the Multiplication Property of Equality to solve division equations.

Example

Tutor

4. **Solve $\frac{a}{-4} = -9$.**

$\frac{a}{-4} = -9$

$\frac{a}{-4}(-4) = -9(-4)$

$a = 36$

e. _____

f. _____

Got It? **Do these problems to find out.**

e. $\frac{y}{-3} = -8$ **f.** $\frac{m}{5} = -7$ **g.** $30 = \frac{b}{-6}$

g. _____

Distance Formula

The distance formula, distance = rate × time, can be written as $d = rt$, $r = \frac{d}{t}$, or $t = \frac{d}{r}$.

Real World Example

Tutor

5. **The distance *d* Tina travels in her car while driving 60 miles per hour for 3 hours is given by the equation $\frac{d}{3} = 60$. How far did she travel?**

$\frac{d}{3} = 60$ Write the equation.

$\frac{d}{3}(3) = 60(3)$ Multiplication Property of Equality

$d = 180$ Simplify.

Tina traveled 180 miles.

Check

Guided Practice

Solve each equation. Check your solution. (Examples 1, 2, and 4)

1. $6c = 18$

2. $24 = -8x$

3. $7m = -28$

4. $\frac{p}{9} = 9$

5. $\frac{a}{12} = -3$

6. $\frac{n}{-10} = -4$

7. Antonia earns $6 per hour helping her grandmother. Write and solve an equation to find how many hours she needs to work to earn $48. (Example 3)

8. A shark can swim at an average speed of 25 miles per hour. At this rate, how far can a shark swim in 2.4 hours? Use $r = \frac{d}{t}$. (Example 5)

9. **Building on the Essential Question** How is the process for solving multiplication and division one-step equations like solving one-step addition and subtraction equations?

Rate Yourself!

How confident are you about solving one-step multiplication and division equations? Check the box that applies.

For more help, go online to access a Personal Tutor.

Tutor

Name _____ My Homework _____

Independent Practice

Go online for Step-by-Step Solutions eHelp

Solve each equation. Check your solution. (Examples 1, 2, and 4)

1. $7a = 49$

Show your work.

2. $-6 = 2x$

3. $-32 = -4b$

4. $\frac{u}{6} = 9$

5. $-8 = \frac{c}{-10}$

6. $54 = -9d$

7 $-12y = 60$

8. $\frac{r}{20} = -2$

9. $\frac{g}{10} = -9$

10. Brandy wants to buy a digital camera that costs $300. Suppose she saves $15 each week. In how many weeks will she have enough money for the camera? Use a bar diagram to solve arithmetically. Then use an equation to solve algebraically. (Example 3)

Show your work.

11 A race car can travel at a rate of 205 miles per hour. At this rate, how far would it travel in 3 hours? Use $r = \frac{d}{t}$. Write an equation and then solve. (Example 5)

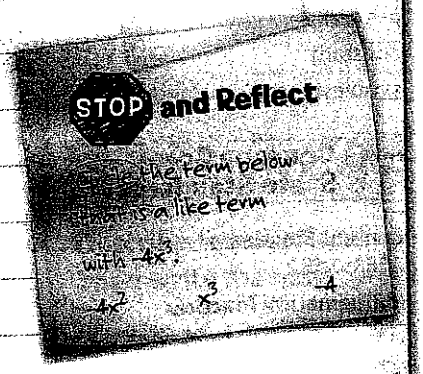
12. A certain hurricane travels at 20.88 kilometers per hour. The distance from Cuba to Key West is 145 kilometers. Write and solve a multiplication equation to find about how long it would take the hurricane to travel from Cuba to Key West.

Work Zone

term: "word" in math

coefficient: # we multiply variable by

Ex: $-4x$ ← (-4)



Show your work.

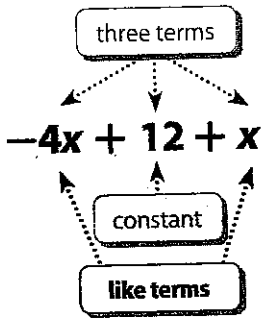
a. _____

b. _____

Identify Parts of an Expression

When addition or subtraction signs separate an algebraic expression into parts, each part is called a **term**. Recall that the numerical factor of a term that contains a variable is called the **coefficient** of the variable.

Like terms contain the same variables to the same powers. For example, $3x^2$ and $-7x^2$ are like terms. So are $8xy^2$ and $12xy^2$. But $10x^2z$ and $22xz^2$ are *not* like terms. A term without a variable is called a **constant**. Constant terms are also like terms.



Tutor

1. Identify the terms, like terms, coefficients, and constants in the expression $6n - 7n - 4 + n$.

$6n - 7n - 4 + n = 6n + (-7n) + (-4) + 1n$ Rewrite the expression.

- Terms: $6n, -7n, -4, n$
- Like terms: $6n, -7n, n$ All of these terms have the same variable.
- Coefficients: $6, -7, 1$
- Constants: -4 This is the only term without a variable.

Got It? Do these problems to find out.

Identify the terms, like terms, coefficients, and constants in each expression.

a. $9y - 4 - 11y + 7$

b. $3x + 2 - 10 - 3x$

Simplify Algebraic Expressions

An algebraic expression is in **simplest form** if it has no like terms and no parentheses. Use the Distributive Property to combine like terms.

Examples

Tutor

2. **Write $4y + y$ in simplest form.**

$4y$ and y are like terms.

$4y + y = 4y + 1y$ Identity Property $y = 1y$

$= (4 + 1)y$ or $5y$ Distributive Property; Simplify

3. **Write $7x - 2 - 7x + 6$ in simplest form.**

$7x$ and $-7x$ are like terms. -2 and 6 are also like terms.

$7x - 2 - 7x + 6 = 7x + (-2) + (-7x) + 6$ Definition of subtraction

$= 7x + (-7x) + (-2) + 6$ Commutative Property

$= [7 + (-7)]x + (-2) + 6$ Distributive Property

$= 0x + 4$ Simplify

$= 0 + 4$ or 4 Multiplication Property of zero and Additive Identity Property of zero.

Got It? **Do these problems to find out.**

c. $4z - z$ **d.** $6 - 3n + 3n$ **e.** $2g - 3 + 11 - 8g$

Equivalent Expressions

To check whether $4y + y$ and $5y$ are equivalent expressions, substitute any value for y and see whether the expressions have the same value.

Show your work.

c. _____

d. _____

e. _____

Real World Example

Tutor

4. **The cost of a jacket j after a 5% markup can be represented by the expression $j + 0.05j$. Simplify the expression. Then determine the total cost of the jacket after the markup, if the original price is $35.**

$j + 0.05j = 1j + 0.05j$ Identity Property $1j = j$

$= (1 + 0.05)j$ Distributive Property

$= 1.05j$ Simplify

$1.05j = 1.05(35)$ Replace j with 35 to find the total cost.

$= 36.75$ Multiply

So, the cost of the jacket after a 5% markup is $36.75.

Got It? **Do this problem to find out.**

f. Write an expression in simplest form for the cost of the jacket in Example 4 if the markup is 8%. Then determine the total cost after the markup.

f. _____

Real World

Tutor

5. **At a concert, you buy some T-shirts for $12.00 each and the same number of CDs for $7.50 each. Write an expression in simplest form that represents the total amount spent.**

Let x represent the number of T-shirts and CDs.

$12x + 7.50x$ Write the expression.

$12x + 7.50x = (12 + 7.50)x$ Distributive Property

$= 19.50x$ Simplify.

The expression $19.50x$ represents the total amount spent.

Got It? Do this problem to find out.

Show your work.

g. You have some money. Your friend has $50 less than you. Write an expression in simplest form that represents the total amount of money you and your friend have.

g. _____

Guided Practice

Check

1. Identify the terms, like terms, coefficients, and constants in $5n - 2n - 3 + n$. (Example 1)

2. Write $4p - 7 + 6p + 10$ in simplest form. (Examples 2 and 3)

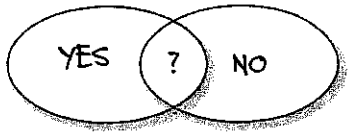
3. The cost of a game g with 7% sales tax can be represented by the expression $g + 0.07g$. Simplify the expression. Then determine the total cost of the game after sales tax if the original price is $52. (Example 4)

4. You go to a basketball game and buy 3 waters that cost x dollars each. Your brother buys a bottle of water and a bag of peanuts that costs $4.50. Write an expression in simplest form that represents the total amount of money spent altogether. (Example 5)

5. **Building on the Essential Question** Explain why $2(x - 1) + 3(x - 1) = 5(x - 1)$ is a true statement.

Rate Yourself!

Are you ready to move on? Shade the section that applies.



For more help, go online to access a Personal Tutor.

Tutor

Name _____ My Homework _____

Independent Practice

Go online for Step-by-Step Solutions eHelp

Identify the terms, like terms, coefficients, and constants in each expression. (Example 1)

1. $2 + 3a + 9a$

2. $7 - 5x + 1$

3. $9 - z + 3 - 2z$

Write each expression in simplest form. (Examples 2 and 3)

4. $n + 5n =$

5. $12c - c =$

6. $-4j - 1 - 4j + 6 =$

7. The cost of a ticket t to a concert with a 3% sales tax can be represented by the expression $t + 0.03t$. Simplify the expression. Then determine the total cost after the sales tax if the original price is $72. (Example 4)

Write an expression in simplest form that represents the total amount in each situation. (Example 5)

8. You rent x pairs of shoes for $2 each. You buy the same number of drinks for $1.50 each. You also pay $9 for a bowling lane.

9 You watch x minutes of television on Monday, the same amount on Wednesday, and 30 minutes on Friday.

10. In a State Legislature, there were 119 more members in the House of Representatives than in the Senate. If there were m members in the Senate, write an expression to represent the total members in the State Legislature.

11 Elian and his friends paid a total of $7 for tickets to the school football game. While at the game, they bought 5 hot dogs at x dollars each, 4 boxes of popcorn at y dollars each, and 2 pretzels at z dollars each.

a. Write an expression to show the total cost of admission and the snacks.

b. Hot dogs cost $4, popcorn cost $3, and pretzels cost $2. What was the total cost for admission and snacks?

[redacted] World History

UNIT 10

use pages 533-575 in textbook

7th

Europe Enters the Modern Age

Geography Challenge

Lesson 38: The Age of Exploration

How did the Age of Exploration change the way Europeans viewed the world?

Lesson 39: The Scientific Revolution

How did the Scientific Revolution change the way people understood the world?

Lesson 40: The Enlightenment

How have the ideas of the Enlightenment influenced modern government?

Timeline Challenge

Geography Skills

Analyze the maps in "Setting the Stage" for Unit 10 in the Student Text. Then answer the following questions and fill out the map as directed.

1. Label the Atlantic Ocean, the Pacific Ocean, and the Indian Ocean.

2. Da Gama was the first to find a sea route to Asia. He sailed for Portugal in 1497. Find his route on the map in the Student Text. Then draw his route in green on your map. Label the route with his name.

3. Cabral was the first explorer to sail to the east coast of South America. He sailed for Portugal. Find his route on the map in the Student Text. Then draw his route on your map in blue. Label the route with his name.

4. By 1600, on which continents did Portugal claim or control territory or cities? On your map, shade or outline the regions claimed by Portugal in pink.

5. Columbus was the first explorer to sail to the Caribbean Islands. He sailed for Spain. Find his route on the map in the Student Text. Then draw his route on your map in yellow. Label the route with his name.

6. Magellan was the first to lead a voyage that eventually went around the world. He sailed for Spain. Find his route on the map in the Student Text. Then draw his route on your map in red. Label the route with his name.

7. Which European countries during this period sent explorers to North America's east coast?

LESSON 38

The Age of Exploration

How did the Age of Exploration change the way Europeans viewed the world?

PREVIEW

On a separate piece of paper, answer the following questions.

- What do you think motivates the United States to explore space today? Include two or three possible motives.
- Should the United States spend more or less money on the exploration of space? Give reasons for your answer.

READING NOTES

Social Studies Vocabulary

As you complete the Reading Notes, use these terms in your answers.

Age of Exploration	capitalism
cartography	market economy
colony	cottage industry
epidemic	mercantilism

Section 1

1. From your reading, choose three of the motives for exploration. Rank the motives in terms of how influential you think each was in causing the Age of Exploration.

   1st:

   2nd:

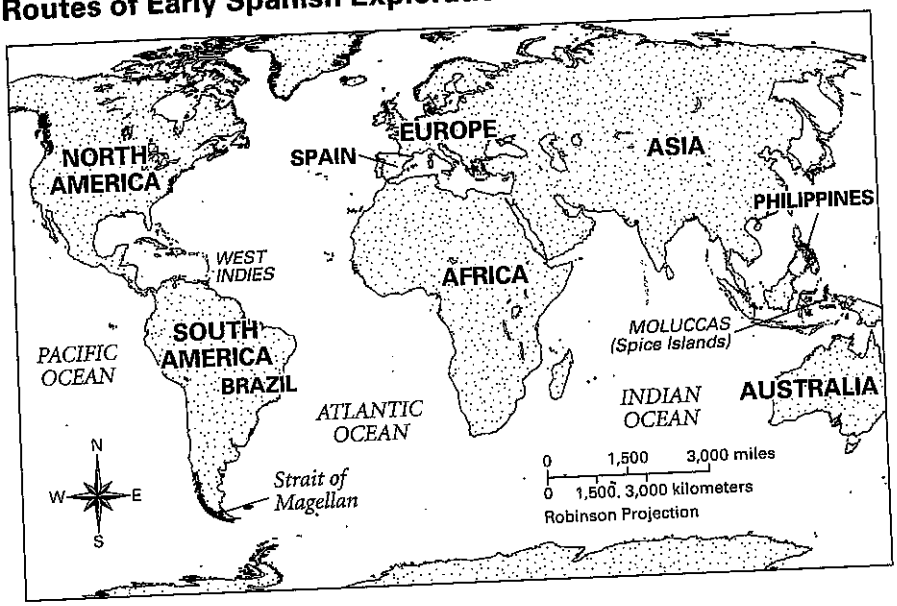
   3rd:

2. List four of the advances that allowed for easier exploration during this time. Then write a one-sentence explanation of each advance. An example has been done for you.
   - Cartography: Improved mapmaking led to more accurate maps, which helped explorers by making navigation easier.
   -
   -
   -

Section 3

1. On the map below, accurately draw in the routes of Christopher Columbus and Ferdinand Magellan. Label each route with the last name of the explorer and the dates of his expedition.

Routes of Early Spanish Explorations



2. Complete the following sentences:

   Christopher Columbus was important to Spanish exploration because . . .

   Ferdinand Magellan was important to Spanish exploration because . . .

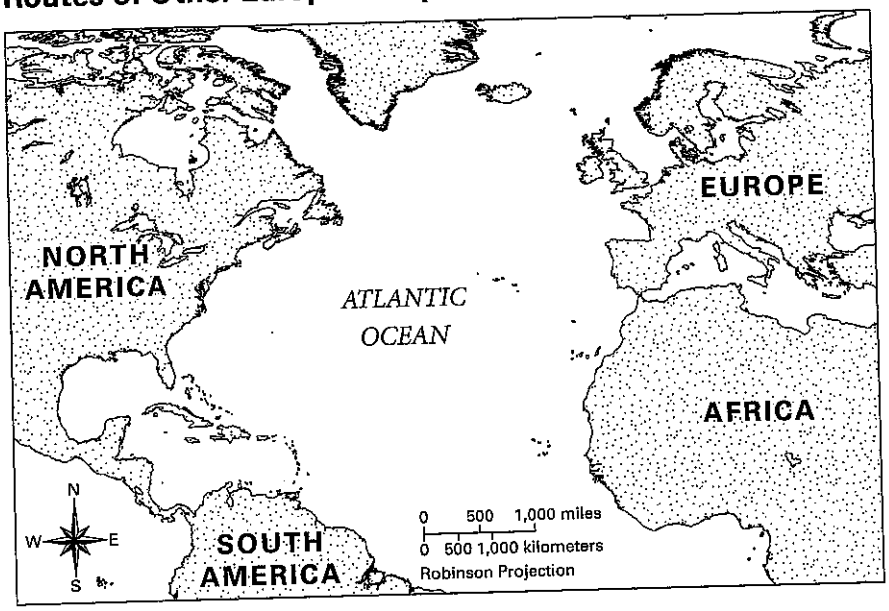
3. List the various effects of early Spanish exploration. Your list should include at least five different effects. An example has been done for you.

   - revealed the existence of the Americas, a "New World" to Europeans
   -
   -
   -
   -

Section 5

1. On the map below, accurately draw in the routes of John Cabot, Giovanni da Verrazano, and Henry Hudson. Label each route with the last name of the explorer and the dates of his expedition.

Routes of Other European Explorations



2. Complete the following sentences:

   John Cabot was important to English exploration because . . .

   Giovanni da Verrazano was important to French exploration because . . .

   Henry Hudson was important to Dutch and English exploration because . . .

3. List the various effects of other European explorations. Your list should include at least four different effects. An example has been done for you.
   - found rich resources of cod and other fish, which led European fishing boats to regularly visit the region
   -
   -
   -

READING FURTHER

Preparing to Write: Analyzing Sources

Read the following excerpt from *The Devastation of the Indies: A Brief Account,* by Bartolomé de Las Casas, first published in 1552. Then answer the questions that follow.

> The Indies were discovered in the year 1492. In the following year . . . many Spaniards went there with the intention of settling the land . . . [the] native peoples [are] called Indians . . . all the land so far discovered is a beehive of people . . . the goodness of the Indians is undeniable . . . [and] if this gifted people could be brought to know the one true God they would be the most fortunate people in the world.
>
> Yet into this sheepfold [the Indians] . . . came some Spaniards who immediately behaved like ravening [greedy] wild beasts, wolves, tigers, or lions that had been starved for many days. And Spaniards have behaved in no other way during the past forty years . . . for they are still acting like . . . beasts, killing, terrorizing, afflicting, torturing, and destroying the native peoples . . . with the strangest and most varied new methods of cruelty, never seen or heard of before, and to such a degree that this Island of Hispaniola . . . having a population that I estimated to be more than three million, has now a population of barely two hundred persons.

Circle the words that Las Casas used that captured your attention.

List the main ideas of this excerpt.

1.

2.

3.

4.

5.

Do you think Las Casas wanted to inform or persuade others? Explain.

LESSON 39

The Scientific Revolution

How did the Scientific Revolution change the way people understood the world?

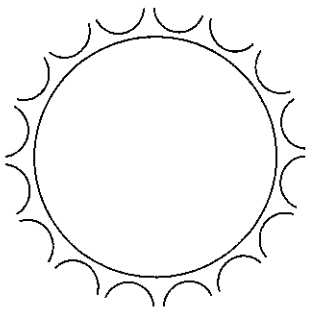
PREVIEW

In the space below, draw a diagram showing the relationship between the sun and the planets. Your diagram should include labels for the sun, each planet, and Earth's moon, and should show their orbits.

Before the Scientific Revolution, most people believed strongly in the geocentric theory. The few who believed in the heliocentric theory (that the planets orbit the sun) were criticized. Perhaps you have experienced something similar—when many people believed something to be true, but you did not. Describe such a situation. How did you try to change people's minds? Were you successful?

Section 2

1. In the space below, complete a diagram that explains the heliocentric theory. Label the diagram with the three major parts of Copernicus's heliocentric theory.



2. How did Kepler's work improve on or support Copernicus's heliocentric theory?

Section 3

1. What were three important discoveries Galileo made with his telescope?

2. How did Galileo's discoveries help support the heliocentric theory?

3. Why did Catholic Church leaders feel threatened by Galileo's support of the heliocentric theory?

Section 6

In each box below, draw a quick sketch of each of the four key inventions of the Scientific Revolution covered in the lesson. Then write a one-sentence summary of each invention's purpose.

Telescope	**Barometer**
Microscope	**Thermometer**

LESSON 40

The Enlightenment

How have the ideas of the Enlightenment influenced modern government?

PREVIEW

Carefully analyze the image in the Introduction of the Student Text.
As you discuss the questions below with your class, record your answers.

- List four interesting details you see in this image.

  1.

  2.

  3.

  4.

- What conclusions can you draw about the people at this gathering? Give one piece of evidence to support each conclusion.

- What kinds of ideas might people discuss at a gathering like this, and why?

- In what ways might these people spread the ideas discussed at this gathering?

If your class is doing the activity for this lesson, complete each item for Sections 2 to 6. *(Note: If your class is not doing the activity, skip item 4 for each section.)*

Section 2

1. What were the major influences on Thomas Hobbes's thinking?

2. What major political arguments did Hobbes present in *Leviathan?*

3. What was Hobbes's lasting impact on government?

4. Hobbes was Enlightenment thinker _____. He said:

Section 3

1. What were the major influences on John Locke's thinking?

2. What major political arguments did Locke present in *Two Treatises of Government?*

3. What was Locke's lasting impact on government?

4. Locke was Enlightenment thinker _____. He said:

Section 6

1. What were the major beliefs that influenced Cesare Beccaria's thinking?

2. What major political arguments did Beccaria present in *On Crimes and Punishments?*

3. What was Beccaria's lasting impact on government?

4. Beccaria was Enlightenment thinker _____. He said:

Section 7

1. Who were some of Europe's "enlightened despots"? What types of reforms did these rulers introduce?

2. Which Enlightenment thinkers' ideas were reflected in the following U.S. documents? List the name of the Enlightenment thinker(s), and what ideas of his were included in the document. (For example, Voltaire: free speech.)

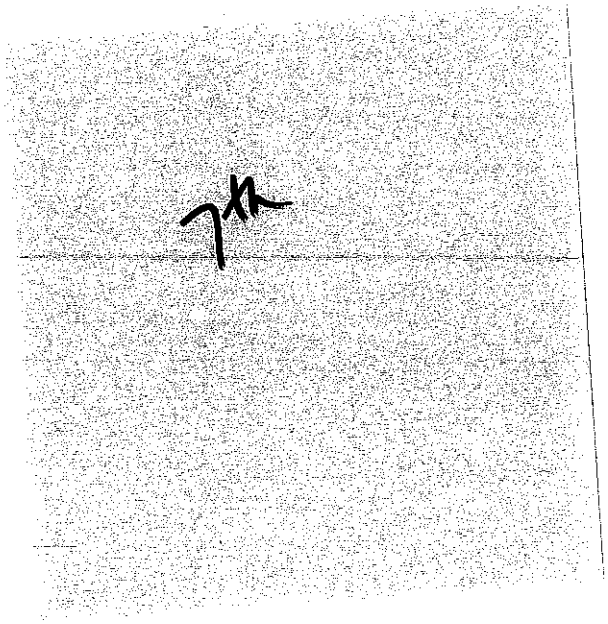
- Declaration of Independence:

- Constitution:

- Bill of Rights:

Independent Study Instructions Grades 7 and 8

1. Read the Article on Coronavirus and answer the questions
2. A. Cut out the cards for the "is it alive" card sort. Put them in to two piles (Alive and Not Alive)
   B. Use the cards to fill out the "is it alive" graphic organizer.
3. Complete the Viruses Attack Activity. ***If the QR Code doesn't work, type in the address to your web browser.****
4. Complete the How Viruses Reproduce Activity. ***If the QR Code doesn't work, type in the address to your web browser.
5. Complete How the Influenza Virus Adapts Activity. ***If the QR Code doesn't work, type in the address to your web browser.****
6. Complete Identifying the Characteristics of Life ***If the QR Code doesn't work, type in the address to your web browser.****
7. Use the card sort "Are Viruses Alive" to complete the "Are viruses alive graphic organizer".
8. Use the CER Graphic Organizer to create a CER.
9. Write your CER in paragraph form on a separate piece of paper. If possible, use a marker to underline the Claim, Evidence and Reasoning in a separate color.



Officials say coronavirus targets elderly and ill, children mostly unaffected

By Los Angeles Times, adapted by Newsela staff on 03.09.20
Word Count **969**
Level **1050L**

Centers for Disease Control and Prevention Director Robert Redfield (center), National Institute of Allergy and Infectious Diseases Director Anthony Fauci (far left) and other government officials speak about coronavirus to reporters at the White House in Washington, D.C., March 2, 2020. Photo: Manuel Balce Ceneta/AP Photo

People who have contracted the coronavirus were recently identified near Christina Arnold's Northern California home. Arnold started worrying about herself and her two teenage sons.

They all have asthma. Their condition puts them at a higher risk of death if they were to contract the virus, which affects people's respiratory system.

"I try to keep my paranoia inside, under control," she said. As of March 4, the death toll in the United States reached 11. "I don't want to show my kids I'm scared because there is not much we can do about it."

Elderly People Most At Risk

COVID-19 (short for "coronavirus disease 2019") has continued to spread in the U.S. Although many Americans have become more anxious, health officials agree on one point. They say the

coronavirus is more of a risk to certain groups of the population, such as the elderly. Health experts stress that the coronavirus does not represent a serious threat to most people.

"The risk is low," said Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases.

A healthy adult who contracts the rapidly spreading illness might get little more than a cough or runny nose. However, the elderly and those with certain medical conditions are at greater risk for a serious infection or even death.

People With Long-Term Illness Also Threatened

Seven fatal cases are now linked to a nursing home outside Seattle, Washington, the state where most of the deaths have been. The deaths of these elderly people highlight that the virus is particularly vicious to those past middle age. The risk is especially high for people who have a long-term illness, such as high blood pressure, or are overweight. Some of the recent casualties included a man and woman in their 70s and a woman in her 80s.

"Older populations of people and people with health conditions may have much bigger problems," said Tom Frieden on March 2. Frieden is the former director of the Centers for Disease Control and Prevention (CDC). He added that about 60 percent of American adults have conditions that could worsen the coronavirus.

The facts about who the virus kills and how to best contain it is of growing concern as coronavirus cases begin to pop up across the country. There is as much fear and uncertainty as there is actual illness.

Children Not Hit With Severe Cases

Children are one group that hasn't been hit with severe cases.

"For reasons we don't understand, children don't seem to get severely ill," Frieden said.

As of March 4, there were 152 known cases of the coronavirus in the U.S., most of which have been in Washington and California. Some contracted the illness through travel or contact with someone who traveled. Some got the virus through its spread in the community.

Faced with the growing numbers of cases without a known cause, dozens of businesses and organizations have canceled events or restricted travel for employees. Late March 2, Twitter urged employees to work from home. Uber said the virus posed a threat to its business.

In Washington, Governor Jay Inslee said residents "should begin to think about avoiding large events."

Experts warned the virus will continue to spread in the coming days. Yet just how deadly it is and who exactly faces the most danger beyond the elderly is not yet clear. Long-term illnesses like diabetes and heart problems have been linked to more serious outcomes, as have severe illnesses such as cancer. Smoking can add to the severity of a coronavirus as well, researchers said.

"We could learn a lot more in the next week," said Stephanie Christenson, a doctor and lung specialist at the University of California, San Francisco (UCSF). "All of this is kind of changing."

China's CDC recently released a paper that detailed more than 70,000 instances of the coronavirus there. It found that in confirmed cases, nearly 15 percent of the people with the virus over 80 years old died from it. In comparison, only about 2 percent of all confirmed people with the coronavirus have died so far. Researchers also saw higher rates of death for people with cardiovascular disease, diabetes, respiratory disease, high blood pressure and cancer.

Broader Look At All Cases Could Lower Fatality Rate

Jeffrey Klausner is a professor of medicine and public health at the University of Southern California, Los Angeles. Klausner warned that early data might not present a fully accurate picture. Initial research depends on rates of confirmed cases, largely treated in medical facilities. He said a broader look at all cases, including those not severe enough for serious treatment, could lower the rate of fatalities.

Peter Beilenson is a health officer for Sacramento County in California. Beilenson explained that "a healthy 72-year-old is not at as great a risk as an unhealthy 72-year-old."

"It's about lung function and the compromise of lung function," said George Rutherford, a disease specialist at UCSF, explaining why the disease hits some harder than others.

George Rutherford is a doctor and disease specialist at UCSF. Rutherford explained that the disease affects some more than others because of the health of their lungs. "The lungs of an 80-year-old aren't the lungs of a 20-year-old."

Rutherford said older people's lungs have accumulated years of air pollution and secondhand smoke. This makes them weaker.

Only Minor Lifestyle Changes Needed

Most health experts say that even groups with increased risk should make only minor lifestyle changes. They should wash their hands, avoid sick people and limit foreign travel.

Arnold, the mother whose sons have asthma, plans on keeping life as normal as possible. Her family "still has to get on with their lives." Despite the worry, they continue going to the gym, movies and beach.

"Your best bet is just washing your hands," she said.

Quiz

1 Which two of the following sentences from the article include CENTRAL ideas of the article?

1. *Seven fatal cases are now linked to a nursing home outside Seattle, Washington, the state where most of the deaths have been.*
2. *"Older populations of people and people with health conditions may have much bigger problems," said Tom Frieden on March 2.*
3. *Experts warned the virus will continue to spread in the coming days.*
4. *Beilenson explained that "a healthy 72-year-old is not at as great a risk as an unhealthy 72-year-old."*

(A) 1 and 2

(B) 1 and 4

(C) 2 and 3

(D) 3 and 4

2 Which statement would be MOST important to include in a summary of the article?

(A) A Chinese government report indicates that the overall mortality rate of the virus is about 2 percent.

(B) For reasons experts do not fully understand, coronavirus does not seem to seriously affect children.

(C) As of March 4, there were 7 fatalities amongst 152 known cases of coronavirus in the U.S., mostly in Washington state and California.

(D) Experts advise that diabetes, heart problems, cancer, obesity and smoking are all linked to more serious coronavirus outcomes.

3 Why was Jeffery Klausner cautious about the implications of early coronavirus data?

(A) The data so far focuses on serious cases requiring hospitalization, not the total number of cases.

(B) Most of the data gathered has come from small hospitals or doctor's offices without proper testing equipment.

(C) The data so far has been gathered by the Chinese government, which is interested in minimizing its impact.

(D) Most of the data so far focuses on elderly people who have been infected with the virus, not the general population.

4 According to the article, why do people with respiratory conditions like asthma face greater risk from coronavirus?

(A) Coronavirus is transmitted through the air.

(B) Coronavirus primarily attacks and affects the respiratory system.

(C) Respiratory medications weaken the immune system.

(D) Respiratory illnesses are strongly correlated with coronavirus infection.

Name: _____

Class: _____

Is It Alive?

Task: Sort the cards at your station into two groups: living and nonliving. Then, record your responses and reasoning on the organizer below.

Example	Classification	Reasoning

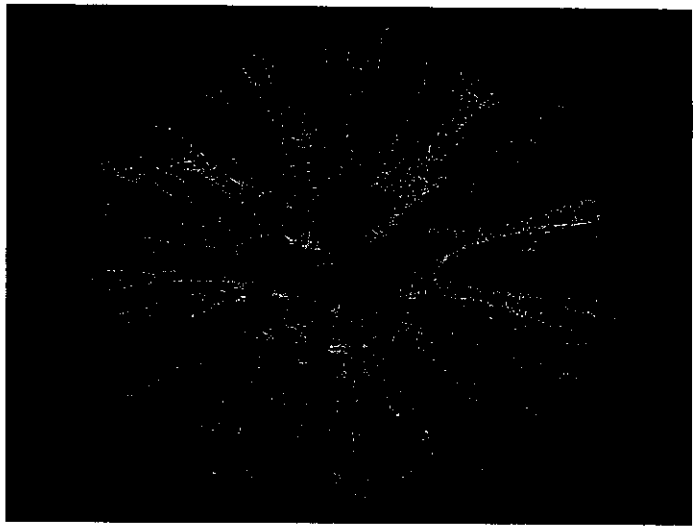
Example	Classification	Reasoning

1. Which examples are you most confident you have classified correctly?

2. Which examples were difficult to classify? Why?

is it alive?

is it alive?



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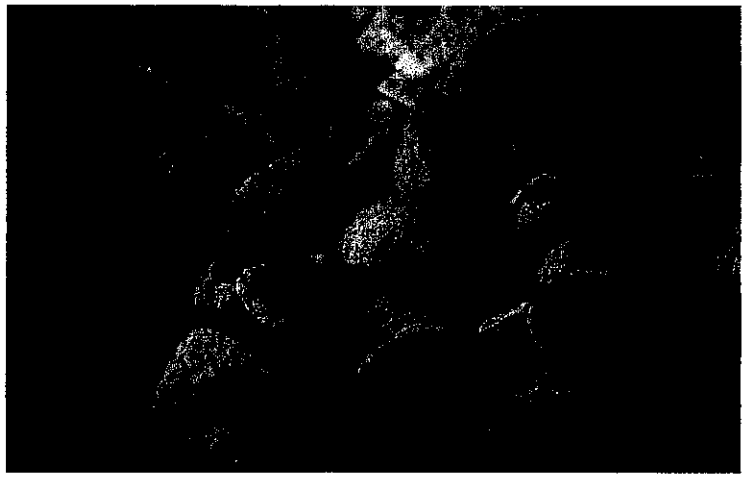

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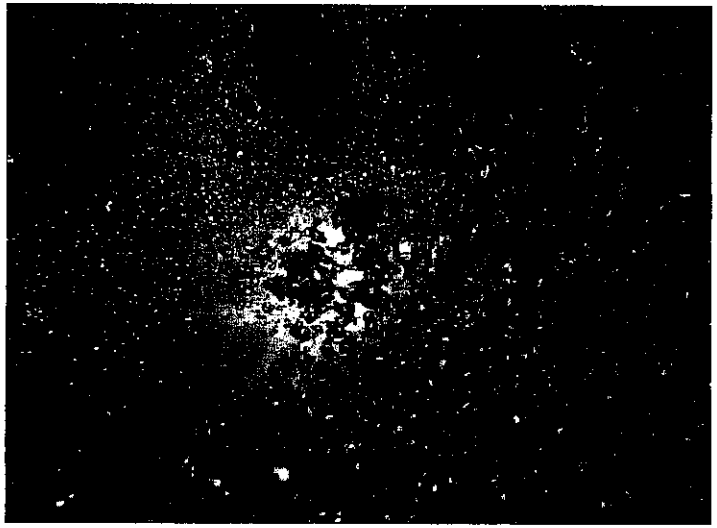

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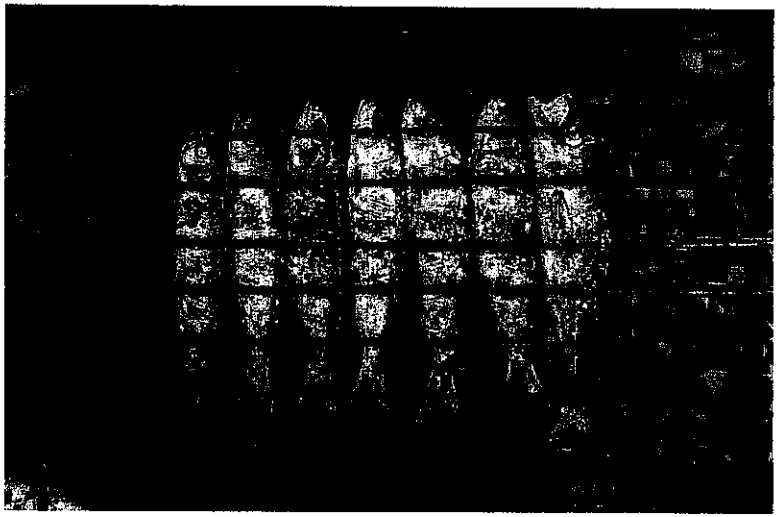

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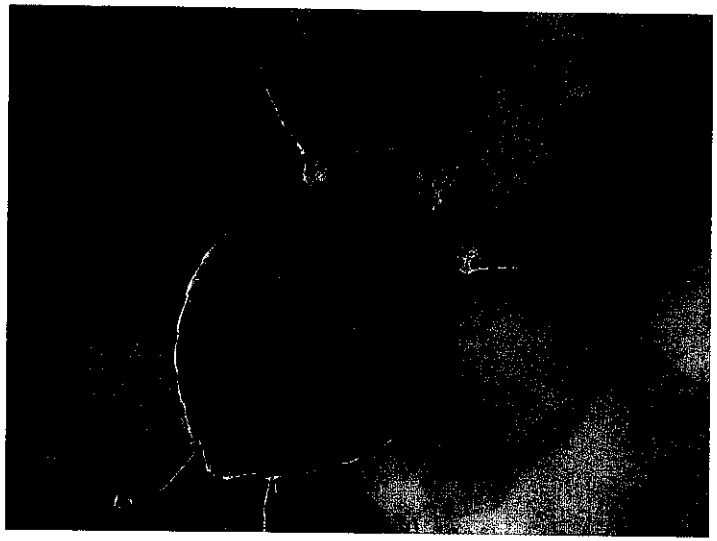

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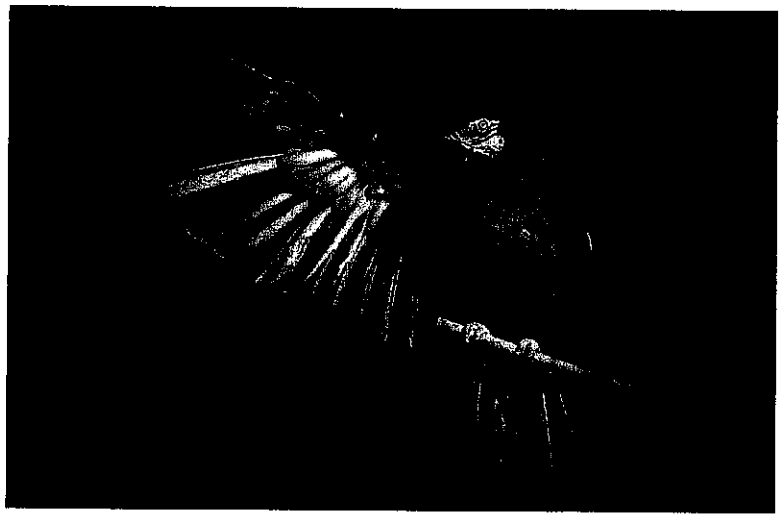

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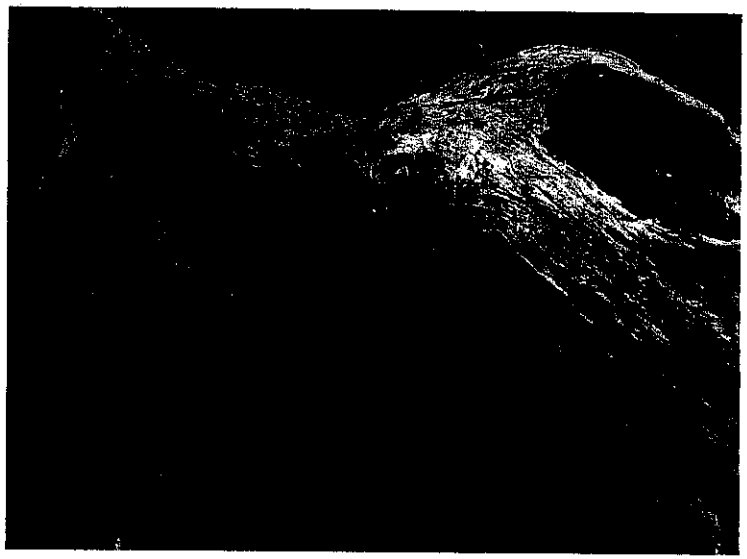

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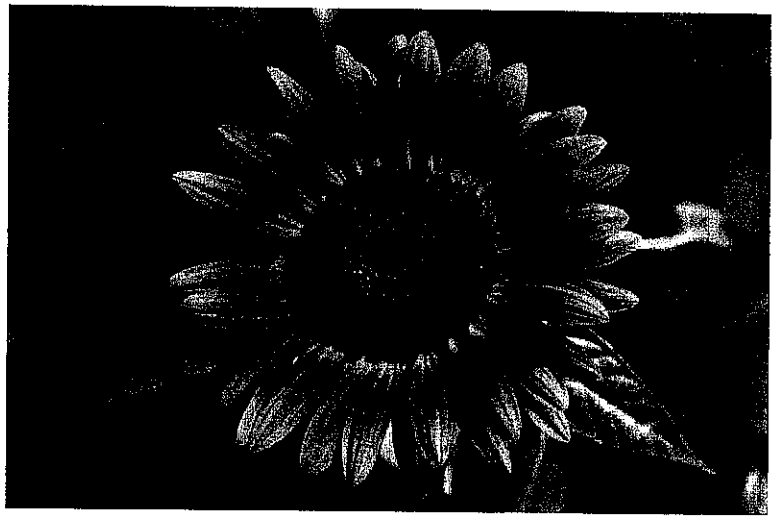

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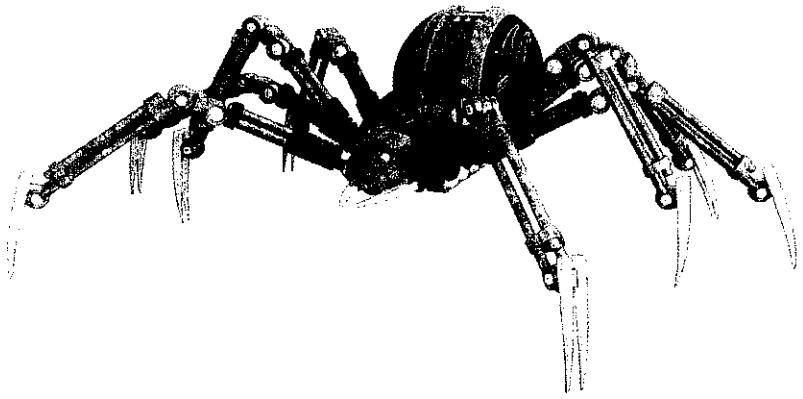

is it alive?

Name: _____

Class: _____

Viruses Attack

Task: Watch video Viruses Attack (available at https://vimeo.com/227174435 or by using the QR code to the upper right) to answer the questions below. Then, record what you have learned about viruses on your graphic organizer.

1. Draw a virus.

2. What does the viral surface protein do?

3. How does the virus get into the cell?

4. What does the virus do once it enters the cell?

5. What questions do you have about viruses and how they attack?

Name: _____

Class: _____

Are viruses Alive?

1. Respond to the question, **Are viruses alive?** Explain your reasoning, connecting what you may already know about viruses with what you know about the characteristics of living things.

2. Record and summarize what you learn about viruses below as you work through the following activities.

Viruses Attack	How Viruses Reproduce
How The Influenza Virus Adapts	Identifying The Characteristics Of Life

Name: _____

Class: _____

How Viruses Reproduce

Task: Watch video How Viruses Reproduce (available at https://vimeo.com/227177718 or by using the QR code to the upper right) to complete the task below. Then, record what you have learned about viruses on your graphic organizer.

1. Create a series of drawings that illustrate how viruses reproduce. Use captions to describe what is happening at each step of the way.

Name: _____

Class: _____

How The Influenza Virus Adapts

Task: Watch the video How The Influenza Virus Adapts (available at https://vimeo.com/227179689 or by using the QR code to the upper right) to complete the task below. Then, record what you have learned about viruses on your graphic organizer.

1. Most viruses don't change. Why is this significant?

2. How is the influenza virus different than most viruses?

3. What changes about the virus each time it mutates? Why is this significant?

4. What is the role of pigs in the spread of disease from one organism (such as a bird) to another (such as a human)?

Name: _____

Class: _____

Identifying The Characteristics of Life

The Amoeba Sisters: Characteristics of Life
http://bit.ly/2tLSXjD

Text: Characteristics of Life
http://bit.ly/2Vl3m1A

Task: Access the resources provided above to answer the questions below and complete the graphic organizer with what you have learned about the characteristics of life.

1. What are some challenges scientists face when it comes to defining the characteristics of life?

2. Complete the graphic organizer below by recording what you have learned about the characteristics of life.

Characteristic	Notes
Organization	
Homeostasis	
Metabolism	

Characteristic	Notes
Reproduction	
Growth and Development	
Response to Stimuli	
Evolution	

PE Independent Study Work

Choose 1 assignment below each day and complete. Answers will be completed in short essay or short answer form (depending on the question) Points are listed next to each assignment in **bold**. If there is a handout that goes with the assignment it will be attached to this paper. **All 1 page papers need to be double spaced and typed (if you have access to a computer) or handwritten double spaced.** ***Please title the assignment with the appropriate title.***

1. 1 Page on childhood obesity. Talk about the health risks and causes. Can use sources from online. (10points)

2. With the provided handout (**Food Log - 1 Week**)keep a journal of everything you eat for one week. Analyze your diet. Do you think it's good or bad? (10 points)

3. 1 Page on how you can change your eating habits in order to improve your overall health. What exact foods can you choose or should be eating and why? (10 points)

4. Why is physical education important and what are the benefits of daily physical education? 1 Page. (10 points)

5. What are the top 10 causes of death in America? Which ones can be prevented through exercise and good nutritional habits? How? 1 Page (10 points)

6. What are the steps that an obese sedentary individual should take towards becoming physically fit and healthy? 1 Page (10 points)

7. What is cardiovascular disease? How do you prevent it? 1 Page (10 points)

8. Define physical fitness and wellness. How are they different? 1 Page (10 points)

9. What are the benefits of physical exercise and good nutritional habits?1 Page (10 points)

10. On the **Physical Activity Week Log** handout provided you will jog all the physical activity you participate in a normal week. Are you getting at least 30 minutes of moderate physical activity everyday and 20 minutes of vigorous physical activity 3 times a week? (20 points)

11. On the **Workout Activity Handout** you would do physical activity for a period of 30 minutes per day you missed, and answer the prompts that are provided. (10 points)

NAME: _____ DATE: _____ PERIOD: _____

Food Log (1 Week)

DAY	TIME	FOOD/BEVERAGE	AMOUNT/ SERVING	CALORIES
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				
Sunday				
		TOTALS:		

Check # of 8 ounce glasses of water:

NAME: _____ DATE: _____ PERIOD: _____

Physical Activity Week Log

Right the activity/activities that you each day in the space provided

Activity	Monday	Tuesday	Wednesday	Thursday	Friday

Define the two words below in your own words.

Moderate: _____

_____

_____

Vigorous: _____

_____

_____

Answer the following question in 3 to 5 complete sentences.

Are you getting at least 30 minutes of moderate physical activity everyday and 20 minutes of vigorous physical activity 3 times a week?

_____

_____

_____

_____

_____

_____

_____

_____

_____

NAME: _____ DATE:_____ PERIOD: _____

Workout Activity

Activity:_____ ***Duration***:_____

Requirements:

You must participate in some sort of physical activity for a period of 30 minutes per day you missed. The physical activity must be one that increases the heart rate. Your heart rate must be beating faster at the end of the activity than it was at the beginning.
To obtain credit, you must complete 1 activity below and return it to me.
Choose:

1) Draw a picture(using colored pencils,crayons,and/or markers) of what it looked like when you participated in this activity.

OR

2) Write a paragraph (5-7sentences) describing the exercise/activity you did. You may include how you felt during the exercise, what you liked about it, how often you participate in this exercise, and/or anything else that relates to P.E.