

# **Fourth Grade Instructional Packet**



## Informative/Explanatory Writing

<input type="radio"/> Introduce text with NVF	<input type="radio"/> Detail #1	<input type="radio"/> Evidence & source OR explanation
<input type="radio"/> Topic Sentence/ Thesis	<input type="radio"/> Detail #2	<input type="radio"/> Evidence & source OR explanation
<input type="radio"/> Plan/Power number	<input type="radio"/> Detail #3	<input type="radio"/> Evidence & source OR explanation

## Opinion/Argument Writing

<input type="radio"/> Introduce the text/NVF	<input type="radio"/> Reason #1	<input type="radio"/> Evidence/Explain/Elaborate
<input type="radio"/> State your opinion/claim	<input type="radio"/> Reason #2	<input type="radio"/> Evidence/Explain/Elaborate
<input type="radio"/> Projected plan/power number	<input type="radio"/> Reason #3	<input type="radio"/> Evidence/Explain/Elaborate

# Narrative Writing

## ○ BEGINNING (DRAWINGS)

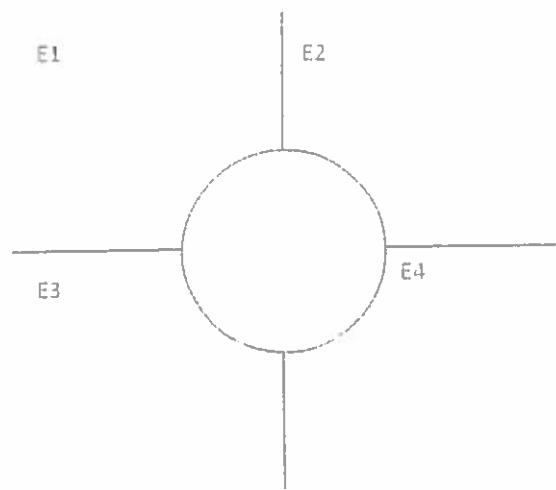
## BEGINNING (STORY ELEMENTS)

Characters:

Setting:

Plot

## ○ STORY EVENTS—THE MIDDLE (DRAWINGS)



## STORY EVENTS

E1

E2

E3

E4

## ○ STORY ENDING

## STORY CLIMAX & SOLUTION

Name: \_\_\_\_\_

# Using Apostrophes to Show Possession

An apostrophe is used to show possession (something belongs to someone). The most common way it is used is in the apostrophe + s combination on the end of a person's name.

**Examples:**

The cat belongs to Susan. It is Susan's cat. The dog belongs to Dennis. It is Dennis's dog.

**Read the first sentence. Finish the second sentence using the possessive apostrophe + s.**

1. The lunch belongs to Bob. \_\_\_\_\_ It is Bob's lunch.
2. The pencil belongs to Dave. It is \_\_\_\_\_
3. The game belongs to Lisa. It is \_\_\_\_\_
4. The folder belongs to Ann. It is \_\_\_\_\_
5. The shoes belong to Jill. They are \_\_\_\_\_

**Apostrophes for possesives are not just for proper nouns, but they are also used for other nouns. Read the first sentence. Finish the second sentence using the possessive apostrophe + s.**

1. The milk belongs to the cow. It is \_\_\_\_\_
2. The report belongs to a student. It is \_\_\_\_\_
3. The pen belongs to my cousin. It is \_\_\_\_\_
4. The book belongs to the library. It is \_\_\_\_\_
5. The desk belongs to the school. It is \_\_\_\_\_

**Rewrite each of the following sentences using the possessive form of the noun that is underlined.**

**Example:**

We drove to the movies in the car that belongs to my aunt. We drove to the movies in my aunt's car.

1. The dog that belongs to Bella is a not a poodle. \_\_\_\_\_
2. The bricks that are a part of our house are red and white. \_\_\_\_\_
3. The seats in the theater are comfortable. \_\_\_\_\_
4. We brought a picnic basket of goodies made by Mrs. Finch. \_\_\_\_\_
5. The teacher kept the windows of the classroom closed. \_\_\_\_\_

## Grammar: Capitalizing Proper Nouns

Name \_\_\_\_\_

- Capitalize each important word in a proper noun.
- Capitalize names of days of the week, months, and holidays; important words in titles of publications; names of languages, races, nationalities, and historical events; and product and geographical names.

**Write each sentence correctly using capital letters for proper nouns.**

1. I will speak with mr. perry on friday.

---

2. I read an essay called, "the kindness of a stranger."

---

3. We will visit the grand canyon right after memorial day!

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4. Did you see alfonso make that goal on the soccer field?

---

5. The family visited paris but did not speak french.

---

6. My friend lucy is asian, and I am african american.

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7. The civil war was a difficult time in american history.

---

8. What flavor of white brite toothpaste is your favorite?

---

Name \_\_\_\_\_

- A **singular noun** names one person, place, or thing.
- A **plural noun** names more than one person, place, or thing.
- Add **-s** to form the plural of most singular nouns.

**Circle the nouns in each sentence. Write the plural noun on the line provided.**

1. The boy has two pencils in his backpack. \_\_\_\_\_
2. Which trains have already arrived at the station? \_\_\_\_\_
3. Kelsey plays fun games at recess. \_\_\_\_\_
4. There were computers at every desk in the room. \_\_\_\_\_
5. The tree dropped a few nuts from its branch. \_\_\_\_\_
6. Aunt Fran likes to eat brownies. \_\_\_\_\_
7. Can the dog have treats before dinner? \_\_\_\_\_
8. Dr. Owens is taking a vacation in a few weeks. \_\_\_\_\_
9. Will the housekeeper bring two pillows to Room 225? \_\_\_\_\_
10. A whale can swim nonstop for many miles. \_\_\_\_\_

Name \_\_\_\_\_

- The **subject** names the person or thing the sentence is about. A **simple subject** is the main noun or pronoun in the **complete subject**.
- The **predicate** tells what the subject is or does. The **simple predicate** is the main verb or verb phrase in the **complete predicate**.

**A. Read each sentence and circle the complete subject. Then write the simple subject on the line provided.**

1. The young boy rode the bus to school. \_\_\_\_\_
2. My teacher Mrs. Hill likes museums. \_\_\_\_\_
3. The two playful children made up a new game. \_\_\_\_\_
4. My sister's friend Ana plays soccer. \_\_\_\_\_
5. The friendly dog ran very fast. \_\_\_\_\_

**B. Read each sentence and circle the complete predicate. Then write the simple predicate on the line provided.**

6. We walked to the park. \_\_\_\_\_
7. My brother Ken collects old stamps. \_\_\_\_\_
8. I cooked a delicious dinner. \_\_\_\_\_
9. Mom works hard all day. \_\_\_\_\_
10. The shy rabbit hopped away quickly. \_\_\_\_\_

**Estimate Products**

**COMMON CORE STANDARD—4.NBT.5**  
Use place value understanding and properties  
of operations to perform multi-digit arithmetic.

Estimate the product by rounding.

1.  $4 \times 472$

$4 \times 472$

$4 \times 500$

$$\underline{2,000}$$

2.  $2 \times 6,254$

3.  $9 \times 54$

4.  $5 \times 5,503$

5.  $3 \times 832$

6.  $6 \times 98$

7.  $8 \times 3,250$

8.  $7 \times 777$

Find two numbers the exact answer is between.

9.  $3 \times 567$

10.  $6 \times 7,381$

11.  $4 \times 94$

12.  $8 \times 684$

**Problem Solving**

13. Isaac drinks 8 glasses of water each day. He says he will drink 2,920 glasses of water in a year that has 365 days. Is the exact answer reasonable? Explain.
- 
- 
- 
- 

14. Most Americans throw away about 1,365 pounds of trash each year. Is it reasonable to estimate that Americans throw away over 10,000 pounds of trash in 5 years? Explain.
- 
- 
- 
-

Name \_\_\_\_\_

Date \_\_\_\_\_

# 2

## -digit multiplication : Box Method

Work out the answers to these multiplication questions using the box method.

$$27 \times 18 = 486$$

20	7
10	200      70
8	160      56

$$\begin{array}{r} 200 \\ 70 \\ 160 \\ + 56 \\ \hline 486 \end{array}$$

$$18 \times 17 = \underline{\quad}$$

$$21 \times 19 = \underline{\quad}$$

$$29 \times 15 = \underline{\quad}$$

$$28 \times 24 = \underline{\quad}$$

$$17 \times 12 = \underline{\quad}$$


Name \_\_\_\_\_

Date \_\_\_\_\_



### -digit multiplication : Box Method

Work out the answers to these multiplication questions using the box method.

$$218 \times 4 = 872$$

	200	10	8
4	800	40	32

$$\begin{array}{r} 800 \\ 40 \\ + 32 \\ \hline 872 \end{array}$$

$$121 \times 8 = \underline{\quad}$$

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$$\underline{\quad}$$

$$168 \times 6 = \underline{\quad}$$

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$$\underline{\quad}$$

$$249 \times 5 = \underline{\quad}$$

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$$\underline{\quad}$$

$$204 \times 9 = \underline{\quad}$$

--	--	--

$$\underline{\quad}$$

$$231 \times 7 = \underline{\quad}$$

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$$\underline{\quad}$$

$$198 \times 3 = \underline{\quad}$$

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$$\underline{\quad}$$

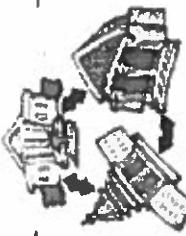
$$175 \times 2 = \underline{\quad}$$

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$$\underline{\quad}$$

# Branches of Government

## Cross-Curricular Focus: History/Social Sciences



There are three different levels of government in the United States: federal, state and local. Officials in each level are elected by the people to serve and protect the people within the **jurisdiction**, or area of authority. The federal government handles relations between the United States and other countries, including war, peace treaties and trade. It is also in charge of printing money and running the military. State governments are responsible for public education, health and safety. Local governments provide services, such as parks, police and fire protection, to members of the community.

The federal government is the national level of government. It is divided into three **separate branches**: the **legislative branch**, the **judicial branch**, and the **executive branch**. The three branches work together to make sure the power is balanced, and no individual branch becomes too powerful. This is known as a system of checks and balances.

Congress is the legislative branch. It is responsible for making laws. Congress is made up of two separate chambers: the Senate, and the House of Representatives. Each state is represented in each chamber. A state elects two senators to the Senate. Each state's representation in the House of Representatives is based on the state's population.

The judicial branch is responsible for interpreting laws and for hearing court cases. These court cases decide if a law has been broken or if a law is unjust. The Supreme Court is our nation's highest court and has power over all lower courts when deciding matters concerning in the U.S. Constitution.

The executive branch is responsible for executing, or carrying out, laws. The president of the United States is in charge of this branch and is assisted by his cabinet of advisors. The president signs bills into law and can also veto proposed laws. In addition, the president is commander in chief of the U.S. armed forces.

The three branches of the federal government work together to ensure that the rights of citizens are not lost. The ultimate power in the U.S. government belongs to the people. Citizens entrust their power to government officials by voting to elect them.

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

- 1) What does a system of checks and balances protect against?

- 2) Which of the branches of the federal government is divided into two separate chambers? What are the chambers?

- 3) What is the difference between representation in the House and representation in the Senate?

- 4) What is the judicial branch responsible for?

- 5) The president of the U.S. is in charge of which branch of government?

# Informative / Explanatory Writing

Introduce text with NVF

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Topic Sentence / Thesis

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Plan / Power number

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Detail #1

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Evidence & source OR explanation

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Detail #2

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Evidence & source OR explanation

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Detail #3

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Evidence & source OR explanation

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Conclusion

Restate your topic / thesis

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Name \_\_\_\_\_

- A **noun** is a word that names a person, a place, or a thing.
- A **common noun** names any person, place, or thing.
- A **proper noun** is the name or title of a specific person, place, or organization.
- Proper nouns begin with capital letters. If a proper noun has more than one word, each important word begins with a capital letter.

**Read each sentence and circle the nouns. Write C over each noun that is a *common noun*. Write P over each noun that is a *proper noun*.**

1. The house is brown and white.
2. Mrs. LaRusso is my teacher.
3. My cousin is moving to New York City.
4. Does Ellie want to go to the carnival?
5. Uncle Pete is volunteering for the Peace Corps.
6. Dr. Grady was kind and helpful.
7. The dog and cat waited patiently for dinner.
8. Derek knows how to play the trumpet and the trombone.
9. The Big Apple Circus was first performed in Kent, England.
10. Many actors auditioned for the lead role in the play.



# Adding with different numbers of digits

Find the total for each problem.

$$\begin{array}{r} 432 \\ + 43 \\ \hline 475 \end{array}$$

$$\begin{array}{r} 176 \\ + 97 \\ \hline 273 \end{array}$$

Remember to regroup if you need to.

Find the total for each problem.

$$\begin{array}{r} 148 \\ + 31 \\ \hline \end{array}$$

$$\begin{array}{r} 271 \\ + 17 \\ \hline \end{array}$$

$$\begin{array}{r} 371 \\ + 24 \\ \hline \end{array}$$

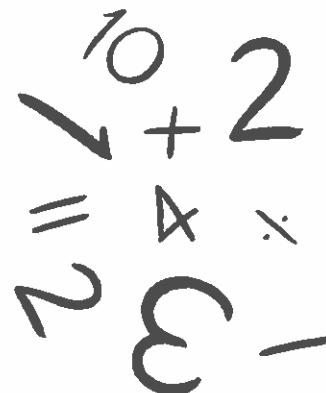
$$\begin{array}{r} 938 \\ + 31 \\ \hline \end{array}$$

$$\begin{array}{r} 942 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 747 \\ + 34 \\ \hline \end{array}$$

$$\begin{array}{r} 633 \\ + 43 \\ \hline \end{array}$$

$$\begin{array}{r} 101 \\ + 75 \\ \hline \end{array}$$



Write the answer in the box.

$47 + 320 =$

$26 + 251 =$

$273 + 97 =$

$849 + 38 =$

Write in the missing numbers in these problems.

$$\begin{array}{r} 242 \\ + 27 \\ \hline 29 \end{array}$$

$$\begin{array}{r} 93 \\ + 38 \\ \hline 977 \end{array}$$

$$\begin{array}{r} 85 \\ + 12 \\ \hline 837 \end{array}$$

$$\begin{array}{r} 64 \\ + 63 \\ \hline 687 \end{array}$$

Find the answer to these problems. Use the space for working them out.

Tommy has saved \$238. For his birthday he is given another \$52. How much does he have now?



A circus sells 208 adult tickets and 86 children's tickets. How many tickets are sold altogether?



## Mental math: subtracting whole hundreds

### Grade 4 Subtraction Worksheet

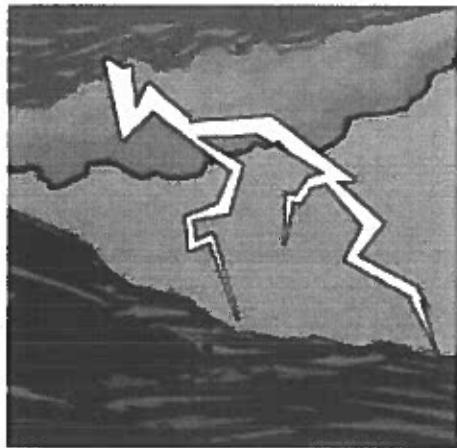
Find the difference.

1.  $6,400 - 100 =$  \_\_\_\_\_
2.  $7,000 - 100 =$  \_\_\_\_\_
  
3.  $8,100 - 1,800 =$  \_\_\_\_\_
4.  $7,400 - 4,000 =$  \_\_\_\_\_
  
5.  $1,600 - 400 =$  \_\_\_\_\_
6.  $8,300 - 6,100 =$  \_\_\_\_\_
  
7.  $2,500 - 1,000 =$  \_\_\_\_\_
8.  $2,400 - 1,300 =$  \_\_\_\_\_
  
9.  $3,400 - 2,200 =$  \_\_\_\_\_
10.  $4,500 - 3,000 =$  \_\_\_\_\_
  
11.  $7,700 - 5,200 =$  \_\_\_\_\_
12.  $9,900 - 7,700 =$  \_\_\_\_\_
  
13.  $2,700 - 1,100 =$  \_\_\_\_\_
14.  $4,300 - 2,600 =$  \_\_\_\_\_
  
15.  $9,600 - 3,500 =$  \_\_\_\_\_
16.  $2,800 - 1,100 =$  \_\_\_\_\_
  
17.  $8,400 - 4,600 =$  \_\_\_\_\_
18.  $9,300 - 6,300 =$  \_\_\_\_\_
  
19.  $5,300 - 1,900 =$  \_\_\_\_\_
20.  $2,200 - 1,500 =$  \_\_\_\_\_

## Finding the Main Idea

# The Storm

The rain began early in the morning. It fell as hard drops, one after another. The sky was full of dark purple clouds. Thunder began as a soft rumble and became louder and louder. Lightning crashed every few minutes, making the sky a brilliant white.



What is the main idea? Circle the correct answer.

- A. The farms needed the rain.
- B. The thunder hurt the people's ears.
- C. Lightning made the sky bright.
- D. The storm was very strong.

Write three details in the story in the boxes.

1

2

3

Name: \_\_\_\_\_

## Find the Cause and Effect

Read each sentence below. Write the cause on the first line and the effect on the second line.

**Example:** Larry ran across the road and was hit by a car.

**Cause:** Larry ran across the road.

**Effect:** He was hit by a car.

1. Amanda missed the bus and was late for school.

Cause: \_\_\_\_\_

Effect: \_\_\_\_\_

2. Vance worked hard on his homework and made an A.

Cause: \_\_\_\_\_

Effect: \_\_\_\_\_

3. Lightning struck a tree, and the tree started to burn.

Cause: \_\_\_\_\_

Effect: \_\_\_\_\_

4. Daisy did extra chores around the house and earned extra money to buy a new purse.

Cause: \_\_\_\_\_

Effect: \_\_\_\_\_

5. A heavy rain flooded the town.

Cause: \_\_\_\_\_

Effect: \_\_\_\_\_

6. He watered the tomato plant regularly, and it produced dozens of tomatoes.

Cause: \_\_\_\_\_

Effect: \_\_\_\_\_

7. We forgot to put gas in the car, and we ran out of gas.

Cause: \_\_\_\_\_

Effect: \_\_\_\_\_

8. The cake burned in the oven that was too hot.

Cause: \_\_\_\_\_

Effect: \_\_\_\_\_

Name \_\_\_\_\_

## Solve Multistep Problems Using Equations

### ALGEBRA

### Lesson 2.12



COMMON CORE STANDARD—4.OA.3  
Use the four operations with whole numbers to solve problems.

Find the value of  $n$ .

1.  $4 \times 27 + 5 \times 34 - 94 = n$

$108 + 5 \times 34 - 94 = n$

$108 + 170 - 94 = n$

$278 - 94 = n$

$184 = n$

2.  $7 \times 38 + 3 \times 45 - 56 = n$

\_\_\_\_\_ =  $n$

3.  $6 \times 21 + 7 \times 29 - 83 = n$

4.  $9 \times 19 + 2 \times 57 - 75 = n$

\_\_\_\_\_ =  $n$

\_\_\_\_\_ =  $n$

5.  $5 \times 62 + 6 \times 33 - 68 = n$

6.  $8 \times 19 + 4 \times 49 - 39 = n$

\_\_\_\_\_ =  $n$

\_\_\_\_\_ =  $n$

### Problem Solving



7. A bakery has 4 trays with 16 muffins on each tray. The bakery has 3 trays of cupcakes with 24 cupcakes on each tray. If 15 cupcakes are sold, how many muffins and cupcakes are left?

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8. Katy bought 5 packages of stickers with 25 stickers in each package. She also bought 3 boxes of markers with 12 markers in each box. If she receives 8 stickers from a friend, how many stickers and markers does Katy have now?

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Name \_\_\_\_\_

**Lesson 4.10****Place the First Digit**

**COMMON CORE STANDARD—4.NBT.6**  
Use place value understanding and properties of operations to perform multi-digit arithmetic.

**Divide.**

1. 
$$\begin{array}{r} 62 \\ 3)186 \\ -18 \\ \hline 06 \\ -6 \\ \hline 0 \end{array}$$

2.  $4\overline{)298}$

3.  $3\overline{)461}$

4.  $9\overline{)315}$

5.  $2\overline{)766}$

6.  $4\overline{)604}$

7.  $6\overline{)796}$

8.  $5\overline{)449}$

9.  $6\overline{)756}$

10.  $7\overline{)521}$

11.  $5\overline{)675}$

12.  $8\overline{)933}$

**Problem Solving**

13. There are 132 projects in the science fair. If 8 projects can fit in a row, how many full rows of projects can be made? How many projects are in the row that is not full?
14. There are 798 calories in six 10-ounce bottles of apple juice. How many calories are there in one 10-ounce bottle of apple juice?

## Basic Geometry Terms

Cross-Curricular Focus: Mathematics

- **TOPIC** -

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

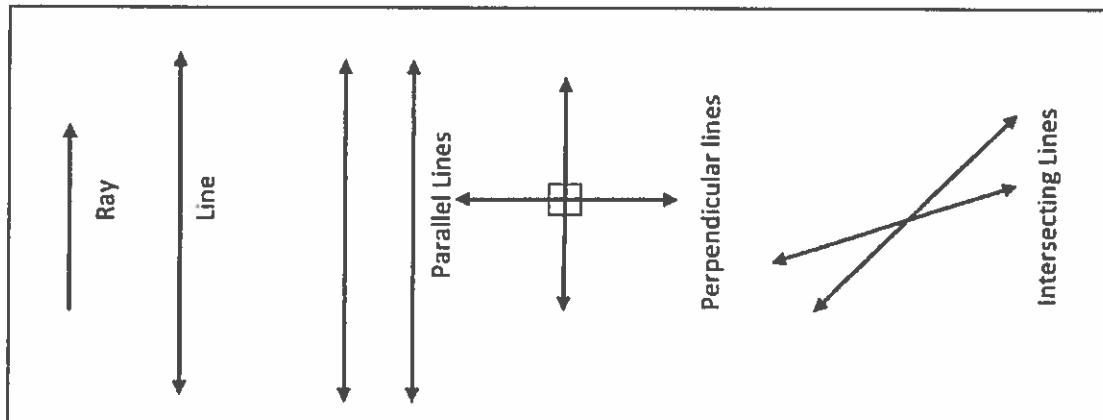
- 1) Who is called the Father of Geometry?  
\_\_\_\_\_
- 2) Use at least two geometrical shapes to make an artistic design in this space.  
\_\_\_\_\_
- 3) What is the main difference between a ray and a line?  
\_\_\_\_\_
- 4) How do you know if two lines are parallel to each other?  
\_\_\_\_\_
- 5) How do you know if two lines are perpendicular to each other?  
\_\_\_\_\_

Geometry is the study of two-dimensional shapes, three-dimensional figures and all the various positions, combinations, sizes and shapes they can have. Geometry deals with a sense of space. It requires people to reason and problem-solve. Geometry is found in everyday life, especially in art, science, architecture, sports and more.

An ancient Greek named Euclid is known as the Father of Geometry. Much of the geometry studied by students is based on his ideas. His ideas are very important for further geometrical studies in high school and college.

There are many important mathematical terms to know to be successful in geometry. A **ray** is part of a line. It has only one endpoint, and it extends forever in one direction. A **line** is a straight path of points that continues on forever in two directions.

Lines are called different things depending on their position in relationship to other lines. Two lines are parallel to each other when they stay the same distance apart and never cross. Two lines are perpendicular to each other when they cross to form four right angles. Two lines are **intersecting** lines when one line crosses the other, and they share a point.



# Informative / Explanatory Writing

Introduce text with NVE

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Topic Sentence / Thesis

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Plan / Power number

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Detail #1

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Evidence & source OR explanation

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Detail #2

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Evidence & source OR explanation

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Detail #3

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Evidence & source OR explanation

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Conclusion

Restate your topic / thesis

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Name: \_\_\_\_\_

## Is It a Fact or an Opinion?

A fact is something that is true and can be proven. An opinion is what a person thinks or feels.  
Read each sentence below. Write *fact* in the blank if it is a fact. Write *opinion* in the blank if it is opinion.

1. Blue is the prettiest color. \_\_\_\_\_
2. Sarah went to the store on Monday. \_\_\_\_\_
3. A camel is a mammal. \_\_\_\_\_
4. Spinach tastes great. \_\_\_\_\_
5. Everyone should go to the movies on Friday. \_\_\_\_\_
6. Theresa's dog is a poodle. \_\_\_\_\_
7. Bears are very interesting. \_\_\_\_\_
8. Jake is the best baseball player. \_\_\_\_\_
9. George Washington was the first president of the United States. \_\_\_\_\_
10. Picnics are better in the summer. \_\_\_\_\_
11. Soccer is a dumb game. \_\_\_\_\_
12. The earth has a north and south pole. \_\_\_\_\_
13. Cheetahs can run faster than horses. \_\_\_\_\_
14. George Washington was the greatest president of the United States. \_\_\_\_\_
15. Red shoes are better than white shoes. \_\_\_\_\_
16. Tuesday comes after Monday. \_\_\_\_\_
17. Spiders are creepy. \_\_\_\_\_
18. January is the worst month of the year. \_\_\_\_\_
19. Dogs have a better sense of smell than humans. \_\_\_\_\_
20. Halloween is in October. \_\_\_\_\_

fact? opinion? fact? opinion?

## Round numbers 0-10,000 to the nearest 1,000

### Grade 4 Rounding Worksheet

Example: 4,689 rounded to the nearest 1,000 is 5,000

Round to the nearest thousand.

1. 1,539 = \_\_\_\_\_ 2. 8,764 = \_\_\_\_\_ 3. 3,695 = \_\_\_\_\_

4. 8,220 = \_\_\_\_\_ 5. 3,599 = \_\_\_\_\_ 6. 209 = \_\_\_\_\_

7. 3,941 = \_\_\_\_\_ 8. 5,912 = \_\_\_\_\_ 9. 1,908 = \_\_\_\_\_

10. 5,388 = \_\_\_\_\_ 11. 160 = \_\_\_\_\_ 12. 1,329 = \_\_\_\_\_

13. 6,273 = \_\_\_\_\_ 14. 2,046 = \_\_\_\_\_ 15. 4,218 = \_\_\_\_\_

16. 9,186 = \_\_\_\_\_ 17. 7,284 = \_\_\_\_\_ 18. 1,658 = \_\_\_\_\_

19. 9,129 = \_\_\_\_\_ 20. 4,137 = \_\_\_\_\_ 21. 6,086 = \_\_\_\_\_

# Add/Subtract/Multiply w/ parenthesis - 4 numbers

## Grade 3 Order of Operations Worksheet

Find the answer to each question:

$1) \ 1 \times (1 + 9) + 1 = \underline{\hspace{2cm}}$

$2) \ 6 \times 3 - 10 - 5 = \underline{\hspace{2cm}}$

$3) \ 10 + 3 \times (1 + 10) = \underline{\hspace{2cm}}$

$4) \ 5 \times 5 - 9 - 4 = \underline{\hspace{2cm}}$

$5) \ 5 \times (2 \times 4) - 7 = \underline{\hspace{2cm}}$

$6) \ (8 - 5) + 8 + 9 = \underline{\hspace{2cm}}$

$7) \ (3 + 10 + 8) + 10 = \underline{\hspace{2cm}}$

$8) \ (4 \times 3) \times 3 \times 4 = \underline{\hspace{2cm}}$

$9) \ 5 \times (5 \times 1) \times 6 = \underline{\hspace{2cm}}$

$10) \ 5 \times (6 \times 3) + 5 = \underline{\hspace{2cm}}$

$11) \ 4 \times 3 + (9 - 9) = \underline{\hspace{2cm}}$

$12) \ (3 \times 5 \times 1) + 1 = \underline{\hspace{2cm}}$

$13) \ (3 + 9) + 2 - 1 = \underline{\hspace{2cm}}$

$14) \ (7 + 6 - 2) + 9 = \underline{\hspace{2cm}}$

$15) \ (9 + 3) + 5 - 10 = \underline{\hspace{2cm}}$

$16) \ 9 - 7 + (2 \times 6) = \underline{\hspace{2cm}}$

Read “Natural Disasters” before you answer Numbers 1 through 5.

## Natural Disasters

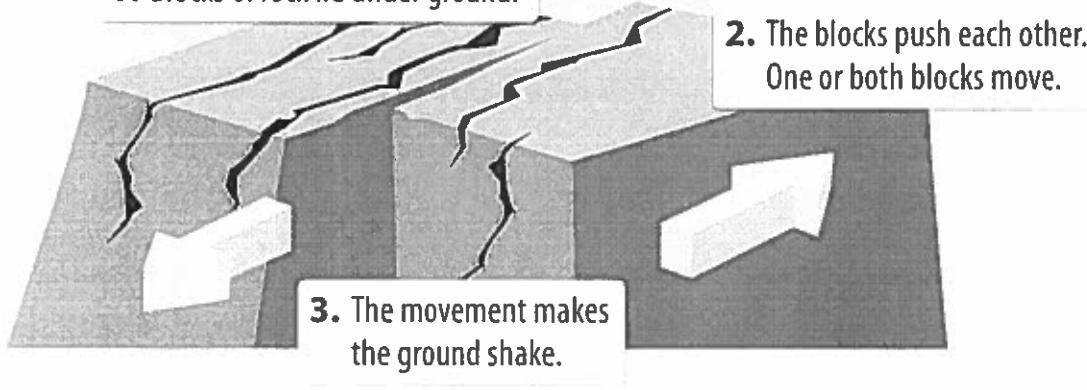
Hurricanes and earthquakes are natural disasters. They can quickly change the surface of Earth. Some changes are similar for both hurricanes and earthquakes. Other changes are not.

Hurricanes are powerful storms that start over warm ocean waters. Hurricanes can cause great destruction. They bring strong winds and floods. The winds can tear up trees and buildings. The floods can destroy beaches and roads.

Unlike hurricanes, earthquakes start inside Earth. They shake the ground. This shaking can cause buildings and roads to crumble and collapse.

### How an Earthquake Happens

1. Blocks of rock lie under ground.



2. The blocks push each other. One or both blocks move.

3. The movement makes the ground shake.

Can we stop natural disasters? No, we cannot. But we can plan what to do when they happen. An emergency plan can help people stay safe.

**GO ON →**

**Use “Natural Disasters” to answer Numbers 1 through 5.**

- 1 **Draw a box** around the sentences that tell how hurricanes and earthquakes are alike.
- 2 **Underline** examples of *destruction* caused by hurricanes.

Write the meaning of *destruction*.

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- 3 How are hurricanes and earthquakes different?

**Draw a box** around the clue word that shows they are different.

- 4 **Underline** the word that means about the same as *collapse*.

What is the meaning of *collapse*?

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- 5 Look at the diagram. **Circle** the information in the diagram that is also in the passage.



# Informative / Explanatory Writing

Introduce text with NVF

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Topic Sentence / Thesis

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Plan / Power number

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Detail #1

Evidence & source OR explanation

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Detail #2

Evidence & source OR explanation

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Detail #3

Evidence & source OR explanation

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Conclusion

Restate your topic / thesis

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## Adjective Antonyms

Name: \_\_\_\_\_

Adjectives describe nouns. They give information about something or someone that we can discover with our senses. They tell how he/she/it looks, feels, sounds, smells, or tastes.

Read the sentence. Circle the adjective. Write the sentence that comes next, using an adjective from the word box that is the antonym of the adjective in the first sentence.

Word Box				
dirty	long	young	slow	quiet
rich	short	cheap	easy	full
funny	on	hot	dry	round

1. The clothes are not clean.
2. The homework is not hard.
3. The party is not noisy.
4. The man is not poor.
5. The lights are not on.
6. The perfume is not expensive.
7. The car is not fast.
8. The movie is not serious.
9. The ground is not wet.
10. My uncle is not old.
11. His brother is not tall.
12. The world is not flat.
13. They are not hungry.
14. The weather is not cold.
15. The song is not short.

The clothes are dirty.

\_\_\_\_\_

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Name \_\_\_\_\_

Date \_\_\_\_\_

# Area Model Multiplication

$$35 \times 12 = \underline{\quad}$$

**Step 1**

Write each number in expanded form.

30	5
10	
2	

**Step 2**

Multiply to find each of the partial products.

30	5
10	300
2	60

**Step 3**

Add the partial products.

30	5
10	300
2	60

$$\begin{array}{r}
 & 1 & \\
 & 300 & \\
 & 50 & \\
 & 60 & \\
 + & 10 & \\
 \hline
 & 420 &
 \end{array}$$

$$35 \times 12 = \underline{420}$$

Directions: Use the area model method to solve each problem. Record the products on the answer lines.

1)  $35 \times 21 = \underline{\quad}$


2)  $62 \times 15 = \underline{\quad}$


3)  $15 \times 18 = \underline{\quad}$


4)  $54 \times 23 = \underline{\quad}$




Name \_\_\_\_\_

Date \_\_\_\_\_

5)  $33 \times 22 =$  \_\_\_\_\_


6)  $24 \times 45 =$  \_\_\_\_\_


7)  $42 \times 14 =$  \_\_\_\_\_


8)  $35 \times 25 =$  \_\_\_\_\_


9)  $17 \times 12 =$  \_\_\_\_\_


10)  $86 \times 52 =$  \_\_\_\_\_




Read “Rita the Rock Star” before you answer Numbers 1 through 5.

## Rita the Rock Star

Rita was happy because she was going to learn to play a musical instrument. But first she had to pick one. Her mother said, “Let’s go to the music store. You can learn about some instruments there.”

### The Science of Music

There were many instruments at the store. Rita liked the French horn because of its shape. “How does it work?” she asked.

“Sound is made when an object vibrates,” said the storeowner. He pointed to the mouthpiece. “You put your lips here and buzz,” he said. “That makes air vibrate down long tubes. And that’s what makes the sound.”

For one thrilling moment, Rita held the French horn. It was exciting! She liked the way it looked and felt.

### A Decision to Make

Rita thought about the French horn on the way home. Maybe she would pick that instrument. She had time to decide. She dreamed of becoming a musician with great capabilities. Rita wanted to learn skills so that she could be in a rock band someday!

**GO ON →**

# Informative / Explanatory Writing

Introduce text with NVF

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Topic Sentence / Thesis

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Plan / Power number

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Detail #1

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Evidence & source OR explanation

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Detail #2

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Evidence & source OR explanation

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Detail #3

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Evidence & source OR explanation

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Conclusion

Restate your topic / thesis

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Use “Rita the Rock Star” to answer Numbers 1 through 5.

- 1 Why do Rita and her mother go to the music store?
- 

**Underline** the sentence that tells the cause.

- 2 Find the section “The Science of Music.” **Draw a box** around what happens when an object vibrates.
- 3 **Circle** a word that means about the same as *thrilling*.
- 4 What causes air to vibrate in a French horn?
- 
- 

**Underline** the cause.

- 5 **Circle** a clue word that tells you what *capabilities* are.

Write the meaning of *capabilities*.

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## Persuasive Writing Assessment



### Here's a Tip!

State your opinion clearly  
and support your reasons  
with evidence or examples.

**Directions:** Select and circle one of the writing prompts. Then, write a persuasive writing piece about that topic.

**Writing Prompt 1:** Why do you think you should be able to choose your own bedtime?

**Writing Prompt 2:** Why do you think fourth graders should spend no more than 30 minutes on homework?

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**COMMON CORE STANDARD—4.NBT.4**  
Use place value understanding and properties of operations to perform multi-digit arithmetic.

## Problem Solving • Comparison Problems with Addition and Subtraction

Use the information in the table for 1–3.

1. How many square miles larger is the surface area of Lake Huron than the surface area of Lake Erie?

**Think:** How can a bar model help represent the problem? What equation can be written?

Lake Huron

22,973

Lake Erie

9,906

?

$$22,973 - 9,906 = \underline{13,067} \text{ square miles}$$

Surface Area of the Great Lakes

Lake	Surface Area (in square miles)
Lake Superior	31,700
Lake Michigan	22,278
Lake Huron	22,973
Lake Erie	9,906
Lake Ontario	7,340

**13,067 square miles**

2. Which lake has a surface area that is 14,938 square miles greater than the surface area of Lake Ontario? Draw a model and write a number sentence to solve the problem.

3. Lake Victoria has the largest surface area of all lakes in Africa. Its surface area is 26,828 square miles. How much larger is the surface area of Lake Superior than that of Lake Victoria?

4. At 840,000 square miles, Greenland is the largest island in the world. The second-largest island is New Guinea, at 306,000 square miles. How much larger is Greenland than New Guinea?

Name \_\_\_\_\_

Date \_\_\_\_\_



## Math Mixed Review Part 1

### Flying Through Fourth Grade

**Directions:** Use your favorite addition strategy to find the sum.

$$\begin{array}{r} 142 \\ + 158 \\ \hline \end{array}$$

$$\begin{array}{r} 1,452 \\ + 371 \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ + 39 \\ \hline \end{array}$$

$$\begin{array}{r} 25,102 \\ + 551 \\ \hline \end{array}$$

$$\begin{array}{r} 92 \\ + 49 \\ \hline \end{array}$$

**Directions:** Use your favorite subtraction strategy to find the difference.

$$\begin{array}{r} 190 \\ - 165 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 524 \\ - 22 \\ \hline \end{array}$$

$$\begin{array}{r} 5,246 \\ - 145 \\ \hline \end{array}$$

$$\begin{array}{r} 42,595 \\ - 2,371 \\ \hline \end{array}$$

**Directions:** Write the factors for each number. Then, decide whether the number is prime or composite.

Numbers
---------

Factors
---------

Prime or Composite?
---------------------

11)      21      \_\_\_\_\_

12)      30      \_\_\_\_\_

13)      19      \_\_\_\_\_

Now, write the first five multiples of the number 7: \_\_\_\_\_

**Directions:** Solve the word problem. Make sure to show your work in each section.

Gavin is a quilter. He uses 5 yards of material to make one square quilt and 7 yards of material to make one rectangular quilt. How many yards of material would Gavin need to make 6 square quilts and 6 rectangular quilts?

Draw a Visual
---------------

Write a Number Sentence
-------------------------

Record Your Answer
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**Cause and Effect:**

# Alice's Adventures in Wonderland

Lewis Carroll wrote "Alice's Adventures in Wonderland" in 1865. It's the story of a girl who follows a rabbit and has some amazing adventures. Below is a passage from the book. Alice is sitting with her sister near a river.

## I: Down the Rabbit-Hole

So she was considering in her own mind (as well as she could, for the day made her feel very sleepy and stupid), whether the pleasure of making a daisy-chain would be worth the trouble of getting up and picking the daisies, when suddenly a White Rabbit with pink eyes ran close by her.



There was nothing so very remarkable in that, nor did Alice think it so very much out of the way to hear the Rabbit say to itself, "Oh dear! Oh dear! I shall be too late!" But when the Rabbit actually took a watch out of its waistcoat-pocket and looked at it and then hurried on, Alice started to her feet, for it flashed across her mind that she had never before seen a rabbit with either a waistcoat-pocket, or a watch to take out of it, and, burning with curiosity, she ran across the field after it and was just in time to see it pop down a large rabbit-hole, under the hedge. In another moment, down went Alice after it!

1. Name the cause: Alice wasn't sure she wanted to get up to pick daisies. Why was she feeling this way? \_\_\_\_\_

2. Name the effect: The White Rabbit had a watch and was wearing a coat. What effect did that have on Alice? \_\_\_\_\_

3. Name the cause: Alice follows the White Rabbit. What was she feeling that made her follow the rabbit? \_\_\_\_\_

Name \_\_\_\_\_

- The **subject** names the person or thing the sentence is about. The **predicate** tells what the subject is or does.
- A **compound subject** is two or more subjects with the same predicate. The subjects are usually joined by **and** or **or**.
- A **compound predicate** is two or more predicates with the same subject. The simple predicates in a compound predicate are usually joined by **and**, **but**, or **or**.

**Read each sentence. Underline the compound subject or compound predicate. Then write compound subject or compound predicate on the line provided.**

1. The cat and dog get along very well. \_\_\_\_\_
2. Mom and Dad rented a car for the vacation. \_\_\_\_\_
3. We could drive or walk to school. \_\_\_\_\_
4. My little sisters whine, fuss, and cry at bedtime. \_\_\_\_\_
5. Aunt Eileen and Uncle Will live down the block. \_\_\_\_\_
6. The sick child complained but went to the doctor. \_\_\_\_\_
7. The earth settles and hardens over time. \_\_\_\_\_
8. Henry, Noah, or Lin will win first prize. \_\_\_\_\_
9. The teachers and students crowded into the auditorium. \_\_\_\_\_
10. Did you draw a picture or use the clay? \_\_\_\_\_

Name \_\_\_\_\_

- A **run-on sentence** combines two or more independent clauses incorrectly.
- Fix a **run-on sentence** by writing separate sentences or combining the sentences correctly.

**Correct each run-on sentence by separating it into two sentences.**

1. We have a new car it is bright red.

---

2. I must hurry up the store will close shortly.

---

3. The dog ran to meet its owner it was happy to see him.

---

4. The baby looked up at the sky the sun was shining.

---

5. Snowflakes come in different sizes I like big snowflakes best.

---

6. She was nervous when she got on stage there were so many people!

---

Name \_\_\_\_\_

## Lesson 1.4

### Round Numbers



**COMMON CORE STANDARD—4.NBT.3**  
Generalize place value understanding for multi-digit whole numbers.

Round to the place value of the underlined digit.

1. 862,840

862,840  
↓  
less than 5

860,000

2. 123,499

3. 552,945

- Look at the digit to the right. If the digit to the right is *less than 5*, the digit in the rounding place stays the same.
- Change all the digits to the right of the rounding place to zero.

4. 389,422

5. 209,767

6. 191,306

7. 66,098

8. 73,590

9. 149,903

10. 684,303

11. 499,553

### Problem Solving



Use the table for 12–13.

12. Find the height of Mt. Whitney in the table. Round the height to the nearest thousand feet.

\_\_\_\_\_ feet

13. What is the height of Mt. Bona rounded to the nearest ten thousand feet?

\_\_\_\_\_ feet

Mountain Heights		
Name	State	Height (feet)
Mt. Bona	Alaska	16,500
Mt. Whitney	California	14,494

## Write a 5-digit number in expanded form.

### Grade 4 Place Value Worksheet

Example:  $45,836 = 4 \times 10,000 + 5 \times 1,000 + 8 \times 100 + 3 \times 10 + 6$   
1

Write the number in expanded form.

1. 75,232 \_\_\_\_\_
2. 99,763 \_\_\_\_\_
3. 33,240 \_\_\_\_\_
4. 68,020 \_\_\_\_\_
5. 71,621 \_\_\_\_\_
6. 33,270 \_\_\_\_\_
7. 11,655 \_\_\_\_\_
8. 24,451 \_\_\_\_\_
9. 51,187 \_\_\_\_\_
10. 80,060 \_\_\_\_\_

# Anatomy of a Circle

## Cross-Curricular Focus: Mathematics



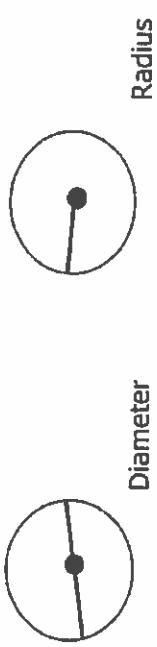
A circle is a round shape. We see circular objects around us every day. When you get into a car, you are riding on four circular tires. If you have any change in your pocket or purse, you have some circular coins. Wherever we find them, all circles have the same parts. Let's look at the anatomy of a circle.

Every circle has a **center**. The outside edge of the circle is made of points. All the points around the edge are the same distance from the circle's center. Like other points in geometry, the center is identified with a single letter. Whatever letter names the center of the circle names the entire circle as well. Since the center of the circle below is point T, this is Circle T.



Center

If you draw a straight line from one point on the outside edge of a circle, and go through the center point to another point on the outside edge of the circle, you have drawn the circle's **diameter**. A **radius** of the circle is half the distance of the diameter. It connects the center point to one point on the outside edge of the circle.



Diameter

Radius

The distance around the outside edge of a circle is called its **circumference**. It takes a little more than the measure of three diameters to go around a circle's circumference. That addition amount is where we get the number Pi. Pi is a decimal number that starts as 3.14 and continues on forever. It can also be shown as the symbol  $\pi$ . Mathematicians also use Pi to find the area of a circle.

Name:

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

- 1) Name two everyday objects not mentioned in the passage that are circular.
- 2) What is the relationship between a circle's diameter and its radius?

- 3) What is meant by a circle's circumference?

- 4) What is meant by a circle's diameter?

- 5) Draw a circle and label the following parts:  
Center P  
Diameter  
Radius  
Circumference

Name \_\_\_\_\_

- Every sentence begins with a **capital letter**.
- A **statement** ends with a **period**. (.)
- A **question** ends with a **question mark**. (?)
- A **command** ends with a **period** or an **exclamation mark**. (. or !)
- An **exclamation** ends with an **exclamation mark**. (!)

**Write each sentence correctly using capital letters and end punctuation.  
Label each sentence as a **statement**, **question**, **command**, or **exclamation**.**

1. put the bottle in the bin outside \_\_\_\_\_

---

2. who is your favorite actor \_\_\_\_\_

---

3. the snow sticks to the tree branches \_\_\_\_\_

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4. how many push-ups can you do in a row \_\_\_\_\_

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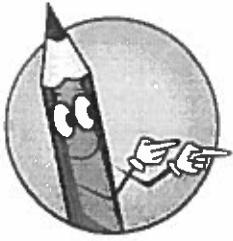
5. the beautiful fireworks are an awesome sight \_\_\_\_\_

---

Name: \_\_\_\_\_

## Draw the Character: The Kitten

Read the paragraph below. Draw a picture of the character in the space. Make your picture look as much like the kitten in the paragraph as you can.



The little kitten was sleeping next to the steps of the house. It had short hair. It was grey and white, but after being in the rain, its white fur had turned to a light brown. It lay curled up, with its paws under its head. Even though it was cold and wet, the kitten still looked happy to be home.

## Choose the Adjective

Name: \_\_\_\_\_

Adjectives describe nouns. They give information about something or someone that we can discover with our senses. They tell how he/she/it looks, feels, sounds, smells, or tastes.



**For each sentence, choose the adjective that makes the most sense to complete the sentence. Write it on the line.**

1. The elephant's ears are \_\_\_\_\_. (tasty/floppy) \_\_\_\_\_
2. My mom's lasagna is \_\_\_\_\_. (delicious/sharp) \_\_\_\_\_
3. The party is \_\_\_\_\_. (ugly/fun) \_\_\_\_\_
4. The \_\_\_\_\_ man has no place to sleep. (poor/fluffy) \_\_\_\_\_
5. My slippers are \_\_\_\_\_. (soft/angry) \_\_\_\_\_
6. Grandma's perfume is \_\_\_\_\_. (frilly/smelly) \_\_\_\_\_
7. Janet's music is \_\_\_\_\_. (generous/energizing) \_\_\_\_\_
8. The movie is \_\_\_\_\_. (dramatic/furry) \_\_\_\_\_
9. Our home is \_\_\_\_\_. (delicious/comfortable) \_\_\_\_\_
10. The school is \_\_\_\_\_. (salty/large) \_\_\_\_\_
11. The party was \_\_\_\_\_. (old/noisy) \_\_\_\_\_
12. Harrison's car is \_\_\_\_\_. (crunchy/fast) \_\_\_\_\_
13. Our friends have a \_\_\_\_ dog. (friendly/bumpy) \_\_\_\_\_
14. The weather is \_\_\_\_\_. (chilly/smooth) \_\_\_\_\_
15. My new shoes are \_\_\_\_\_. (long/fashionable) \_\_\_\_\_
16. The genius is \_\_\_\_\_. (intelligent/rectangular) \_\_\_\_\_
17. The city library is \_\_\_\_\_. (useful/chewy) \_\_\_\_\_
18. We have a \_\_\_\_ horse. (brown/scaly) \_\_\_\_\_

## Adding 3-digit numbers in columns (with regrouping)

### Grade 4 Addition Worksheet

Find the sum.

1. 
$$\begin{array}{r} 364 \\ + 941 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 470 \\ + 731 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 297 \\ + 972 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 321 \\ + 36 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 221 \\ + 943 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 100 \\ + 263 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 122 \\ + 684 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 818 \\ + 904 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 511 \\ + 790 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 5 \\ + 516 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 504 \\ + 783 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 323 \\ + 71 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 902 \\ + 624 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 187 \\ + 692 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 638 \\ + 491 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 700 \\ + 470 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 164 \\ + 2 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 958 \\ + 954 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 191 \\ + 176 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 283 \\ + 29 \\ \hline \end{array}$$

## Multiply in columns - 2 digit by 3 digit

### Grade 4 Multiplication Worksheet

Find the product.

1. 
$$\begin{array}{r} 868 \\ \times 62 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 995 \\ \times 55 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 329 \\ \times 17 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 749 \\ \times 11 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 188 \\ \times 31 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 671 \\ \times 51 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 317 \\ \times 86 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 807 \\ \times 54 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 376 \\ \times 70 \\ \hline \end{array}$$

# Gold Rush Boomtowns

## Cross-Curricular Focus: History/ Social Sciences



Name: \_\_\_\_\_

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) What is a boomtown?

\_\_\_\_\_

2) What is the name of one California boomtown? \_\_\_\_\_

3) What were some of the things that motivated women to come eventually? \_\_\_\_\_

Usually, boomtown populations were mostly men. Few women came to California in the early days of the Gold Rush. The men who came to find their fortunes believed they would quickly make lots of money to take back home to loved ones.

When it became clear that people were not going to become wealthy overnight, some miners returned to their home. Those who stayed began to send for their families. Women with skills like cooking, washing clothes and sewing were highly regarded. Men did not like to do these things for themselves. Women willing to travel to the West could make a very good living marketing their homemaking skills. If single women wanted to marry, they had their choice of hundreds of men.

Though gold is what attracted people to the boomtowns, few made their fortunes by finding it. Those who really struck it rich were the entrepreneurs. They took advantage of the opportunity to sell things to the large numbers of people around them. A good example of this is Levi Strauss. He invented and sold durable pants for miners. They caught on in a big way. We know them now as blue jeans. Today, you don't have to be a miner to wear jeans. Some discoveries endure over time.

# Informative / Explanatory Writing

Introduce text with NVR

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Topic Sentence / Thesis

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Detail #1

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Detail #3

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Evidence & source OR explanation

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Conclusion

Restate your topic / thesis

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## Multiply 3-Digit and 4-Digit Numbers with Regrouping



**COMMON CORE STANDARD—4.NBT.5**  
Use place value understanding and properties  
of operations to perform multi-digit arithmetic.

Estimate. Then find the product.

1. Estimate: 4,000

$$\begin{array}{r} 122 \\ 1,467 \\ \times \quad 4 \\ \hline 5,868 \end{array}$$

2. Estimate: \_\_\_\_\_

$$\begin{array}{r} 5,339 \\ \times \quad 6 \\ \hline \end{array}$$

3. Estimate: \_\_\_\_\_

$$\begin{array}{r} \$879 \\ \times \quad 8 \\ \hline \end{array}$$

4. Estimate: \_\_\_\_\_

$$\begin{array}{r} 3,182 \\ \times \quad 5 \\ \hline \end{array}$$

5. Estimate: \_\_\_\_\_

$$\begin{array}{r} 4,616 \\ \times \quad 3 \\ \hline \end{array}$$

6. Estimate: \_\_\_\_\_

$$\begin{array}{r} \$2,854 \\ \times \quad 9 \\ \hline \end{array}$$

7. Estimate: \_\_\_\_\_

$$\begin{array}{r} 7,500 \\ \times \quad 2 \\ \hline \end{array}$$

8. Estimate: \_\_\_\_\_

$$\begin{array}{r} 948 \\ \times \quad 7 \\ \hline \end{array}$$

9. Estimate: \_\_\_\_\_

$$\begin{array}{r} 1,752 \\ \times \quad 6 \\ \hline \end{array}$$

10. Estimate: \_\_\_\_\_

$$\begin{array}{r} 550 \\ \times \quad 9 \\ \hline \end{array}$$

11. Estimate: \_\_\_\_\_

$$\begin{array}{r} 6,839 \\ \times \quad 4 \\ \hline \end{array}$$

12. Estimate: \_\_\_\_\_

$$\begin{array}{r} \$9,614 \\ \times \quad 3 \\ \hline \end{array}$$

### Problem Solving Real World

13. Lafayette County has a population of 7,022 people. Columbia County's population is 8 times as great as Lafayette County's population. What is the population of Columbia County?

14. A seafood company sold 9,125 pounds of fish last month. If 6 seafood companies sold the same amount of fish, how much fish did the 6 companies sell last month in all?

## Find the missing place value from a 4-digit number

### Grade 4 Place Value Worksheet

Find the missing numbers:

$$1) 1 + 4,000 + 900 + \underline{\quad} = 4,911$$

$$2) 5 + 70 + 900 + \underline{\quad} = 1,975$$

$$3) 0 + 50 + \underline{\quad} + 4 = 1,054$$

$$4) 8,000 + 400 + \underline{\quad} + 6 = 8,466$$

$$5) 400 + 60 + \underline{\quad} + 4 = 1,464$$

$$6) \underline{\quad} + 7 + 200 + 4,000 = 4,207$$

$$7) 1 + 60 + 400 + \underline{\quad} = 6,461$$

$$8) 5 + 10 + 200 + \underline{\quad} = 5,215$$

$$9) 2 + 100 + \underline{\quad} + 80 = 2,182$$

$$10) 60 + \underline{\quad} + 400 + 8,000 = 8,460$$

$$11) 6 + 800 + \underline{\quad} + 20 = 8,826$$

$$12) 8 + \underline{\quad} + 7,000 + 10 = 7,318$$

$$13) \underline{\quad} + 700 + 1,000 + 40 = 1,742$$

$$14) 3 + 900 + \underline{\quad} + 60 = 9,963$$

$$15) 3,000 + \underline{\quad} + 80 + 3 = 3,683$$

$$16) \underline{\quad} + 90 + 1,000 + 8 = 1,098$$

Name \_\_\_\_\_

- A **sentence** shows a complete thought. A **sentence fragment** does not.
- A **statement** is a sentence that tells something.
- A **question** is a sentence that asks something.
- A **command** is a sentence that tells someone to do something.
- An **exclamation** is a sentence that expresses surprise, excitement, or a strong feeling.

**Read each group of words. Underline the group of words that is a sentence. Then write **statement**, **question**, **command**, or **exclamation** to name the type of sentence it is.**

1. Live far away from me. / You live far away. \_\_\_\_\_
2. Is it in here? / The book in here? \_\_\_\_\_
3. This is the best gift ever! / Best gift I ever got! \_\_\_\_\_
4. The button when the light comes on. / Push the button quickly. \_\_\_\_\_
5. How old is your cousin? / Your cousin's age? \_\_\_\_\_
6. The tallest building in the world! / That is the tallest building! \_\_\_\_\_
7. Red backpack today. / My backpack ripped. \_\_\_\_\_
8. The name of your teacher? / Who is your teacher? \_\_\_\_\_
9. Finish your dinner. / Eating dinner. \_\_\_\_\_
10. Will be there. / We will arrive soon. \_\_\_\_\_

Name \_\_\_\_\_

- A **singular noun** names one person, place, or thing. A **plural noun** names more than one person, place, or thing.
- Add **-s** to form the plural of most singular nouns.
- Add **-es** to form the plural of singular nouns that end in **s, sh, ch, x, or z**.
- To form the plural of nouns ending in a consonant followed by the letter **y**, change **y** to **i** and add **-es**.

On the line provided, write the correct plural form of each noun in parentheses.

1. We saw baby (bear) \_\_\_\_\_ coming out of the den.
2. The (bush) \_\_\_\_\_ needed to be trimmed.
3. After the rain, the (match) \_\_\_\_\_ were useless.
4. How many (phone) \_\_\_\_\_ are in the house?
5. Name two (country) \_\_\_\_\_ that border the United States.
6. (Airplane) \_\_\_\_\_ make travel a lot easier.
7. Do you know what is in those (box) \_\_\_\_\_?
8. The store was filled with colorful (dress) \_\_\_\_\_.
9. How many (quiz) \_\_\_\_\_ did you have this week?
10. There are ten (copy) \_\_\_\_\_ of the book on the shelf.

# Charge It!

**Cross-Curricular Focus: Physical Science**



Many people do not really understand how **electricity** works. They just know that when they need power to run an appliance, they have to plug it into the wall.

Energy comes from charged particles that are moving around. Have you ever rubbed a balloon against your clothes to make it stick? Have you held a balloon or a comb over someone's head to watch his hair stand up straight? That's static electricity and electrically charged particles. But these particles don't do much unless we control their energy.

**Static** electricity builds up on certain materials. Other materials, though, let electrical charges flow through them. This creates an electric current. Electric current travels very easily through metals like copper, gold, silver, and aluminum. We call materials that electric current flows through easily **conductors**. Water is also a good conductor of electricity. That's why electrical charges can travel through people, too. There is water in every cell of a person's body. Electric current can travel through these cells.

Since metal is a good conductor of electricity, electrical wires are often made out of metal. Wiring can also be made out of non-metal materials, such as graphite.

Conductors have to be enclosed in a material that is an **insulator**. Insulators do not allow electric current to pass through them. The rubber coating that you see on electrical cords covers the metal. The electric current stays inside the cord so we can direct the current to the appliance that needs power. Other good insulators are glass and some plastics.

Name: \_\_\_\_\_

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

- 1) What are two materials that are good conductors of electricity?

- 2) How is static electricity different from electric current?

- 3) What could happen if the rubber coating on a power cord is damaged?

- 4) Is water a conductor or an insulator?

- 5) In your own words, explain the difference between a conductor and an insulator.

# Informative / Explanatory Writing

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# Discrimination Against Gold Rush Immigrants

Cross-Curricular Focus: History/Social Sciences



Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

Immigrants came to California in the late 1840s and early 1850s for the Gold Rush. Many of them faced awful discrimination. They were not treated fairly by those around them.

Two of the largest immigrant groups were the Chinese and the Irish. Almost 50,000 Chinese came, attracted by the gold. In Ireland, the Potato Famine had killed thousands of Irish people between 1845 and 1849. There was not enough food for the people who lived there to eat. Those who were lucky were sponsored by wealthy patrons. The patrons paid travel expenses for them to start a new life in America. The United States government gave in to the pressure of citizens and passed some unfair laws during this time. In 1850, immigrant miners were forced to pay a Foreign Miners Tax of \$20 per month. That gave the immigrant only the right to look for gold alongside the other miners. Many had to give up their dreams of gold. They were not able to pay the tax.

By the 1870s, the Irish and Chinese populations in California were very large. Many citizens grew worried. They thought the immigrants were trying to take their jobs. They thought they were using resources that belonged to them.

Chinese and Irish immigrants were sometimes forced off their land. Some were told they must live in certain cities or areas. The land where they had lived was taken over by **squatters**. Squatters are people who settle on land they do not own in the hopes of claiming it after a period of time. The immigrants struggled to find jobs or had to take hard jobs for very little pay. Occasionally, immigrants went on **strike** to try to improve their working conditions and pay. The strikes were not usually successful. The Chinese Exclusion Act of 1882 prevented any more Chinese immigrants from coming to the United States. The law was not changed until 1943.

1) What is a squatter?

2) You read that the Chinese and Irish were made to live in certain areas. Do you think this was fair? Why or why not?

3) Who were the two immigrant groups that suffered discrimination?

4) What did the Foreign Miners Tax of 1850 make immigrants do?

5) If you had been an immigrant who went to the Gold Rush, would you have stayed even though there was discrimination? Why or why not?

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# Eastern Woodland Natives

## Cross-Curricular Focus: History/Social Sciences

The Eastern Woodlands was a Native American cultural region long before colonists came to start settlements. It stretched from the east side of the Great Plains all the way to the east coast. It also reached north to the Great Lakes area and south to the Gulf of Mexico. The region had climate changes to match the seasons. The winters were cold, and the summers were hot and humid. The Native Americans in these areas learned to adapt to the seasonal changes so they could survive.

The Eastern Woodlands was rich with a variety of resources. It included rich farmland, forests, mountains, rivers and lakes. In addition, it had the oceans of its coastal borders.

Water is the most important resource for living things. The Eastern Woodlands region had many rivers, lakes and streams. These bodies of water met the needs of people and animals for drinking and washing. They also provided a way for people to travel and transport goods. The flexible bark of the birch tree was an important resource. Using it, the natives were able to make canoes. They used canoes for traveling and for catching fish. Natives who lived near the ocean waters also collected seashells. They used them to make jewelry and other ornaments.

The forests of the Eastern Woodlands had many other resources besides birch bark for canoes. Several kinds of plants were woven to make baskets, trays and even sandals. An abundance of animals lived in the forest. They provided plenty of fresh meat for the natives who hunted them. Some animals that were commonly hunted by the natives were deer and rabbits. Native Americans used every part of the animals they hunted. The meat was eaten. The bones were carved into tools or arrowheads. Finally, the skins were used to make clothing and blankets. A bear skin made a nice, warm winter blanket or coat.

Using the large amount of resources in the Eastern Woodlands, the Native Americans were able to survive and thrive. Later, when European colonists arrived, they would also use these resources.

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

- 1) What resources did the Eastern Woodland natives use for clothing?

- 2) How were the water resources beneficial for the Eastern Woodland natives?

- 3) What characteristic of the forest's birch trees made them suitable for building canoes?

- 4) Many natives were skilled in working with plant materials. Name something that was made out of local plants.

- 5) How did the coastal Native Americans use seashells?

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# Ecology: Taking Care of Earth

## Cross-Curricular Focus: Life Science



Name: \_\_\_\_\_

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

The term **ecology** comes from a Greek word that means "the study of the house." Ecology is the study of how all living things interact with their environments. In a way, Earth is the house of all living things. We all live together on this planet and it is our home. Today, we also understand ecology to mean taking care of the Earth so that humans, plants and animals can all thrive. However, we can damage the environment. Sometimes the damage is **irreversible**.

Ecology is a huge area of study. It covers every part of a living creature's ecosystem that affects its ability to live. Ecology considers how a living thing reacts to climate, soil conditions. It also studies how much clean water is available and the amount natural resources. By learning about how living things, including humans, affect each other, we can make smart decisions that protect all living things and the resources they need.

There are many things that children can do to help make sure that their world stays healthy. The decisions you are making today can affect the future.

Conservation is one area of ecology where we can all make a difference. It does not matter how old we are or where we live. Conservation means using Earth's limited resources wisely so that they don't run out. When you are home, take a moment to think about how you use resources. Many people waste resources. Leaking toilets, half-filled dishwashers or clothes washers, and unattended hoses all waste precious water. If you leave lights on and appliances running in rooms where they are not being used, you are wasting energy.

There's another way we can help conserve Earth's resources. We can show our support of businesses that make their products using methods and materials that do not damage Earth. By buying their products, we are telling them that we appreciate their efforts to be Earth-friendly. We need to take the time to learn about how to save resources. More importantly, we must then put into practice what we learn. Children can do their part. They can show their families some ways to save resources. Together, we can all make a difference.

- 1) The passage compares Earth to a house. How are they alike?

- 2) What does ecology study?

- 3) Sometimes Earth-friendly products are a little more expensive. Why should you buy them anyway?

- 4) Why do you think people leave lights on when they are not using them?

- 5) What is one thing that you, personally, could do today to help conserve resources?

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# Ecosystems

## Cross-Curricular Focus: Life Science



An **ecosystem** is all the things that interact in a specific area, whether they are living or non-living. Some examples of non-living things that support life in an ecosystem are light, air, soil and water. Living things are the plants and animals, called **organisms**, that use those resources.

Each of the specific ecosystems in the world has its own conditions created by the non-living things. These conditions determine what kinds of living things will be able to thrive there. Organisms can only thrive where their needs are being met. Everything in an organism's environment has an effect on it. One ecosystem that allows many different kinds of organisms to thrive is a temperate zone. It is an area where the conditions never become too hot or too cold.

All the living things in an ecosystem are called a **community**. All of one specific kind of organism living in a community is called a population. All the tree frogs in a rainforest community are one population within the community. All the white birch trees are another population within the same community. All the jaguars are yet another rainforest community population.

All living organisms perform certain life processes. They take in nutrients like air, sunlight, water, and food. They use energy from those nutrients to grow and develop. They release energy by doing work and moving. They release waste products. They react to things in their environment. They reproduce, producing offspring, or babies, that are similar to themselves.

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

1) What is one example of a non-living thing in an ecosystem? \_\_\_\_\_

2) What are three of the life processes that living organisms do? \_\_\_\_\_

3) What does population mean in a community? \_\_\_\_\_

4) When does an organism thrive? \_\_\_\_\_

5) Why does a temperate zone support many varieties of organisms? \_\_\_\_\_

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# Endangered Species

## Cross-Curricular Focus: Life Science



Today, some type of animals are an **endangered species**. This means there are very few animals of that kind left on Earth. The animals could face **extinction**. Extinction is when all the animals of that kind die. When a type of animal is extinct, it is gone forever.

One problem for animals is that their habitat is sometimes destroyed by humans. As human populations increase, more and more space is needed for people. Building areas for people to live pushed animals out of their natural homes. Forest and swamp habitats are the most threatened. Trees are cut down to make room for homes and businesses. Swamps are filled in so that neighborhoods can expand. The habitat is destroyed. The animals have nowhere else to go. Without a habitat, the number of animals begins to go down.

Humans must prevent the extinction of animals due to the loss of their habitat. We have to become more aware of animal populations when considering building and expansion projects. Other options may not be as convenient, but the survival of the animals needs to be taken into consideration. Better planning and an awareness of how human actions affect animals can make a difference. It is still possible to maintain a diverse animal population for future generations to enjoy.

Another major cause of endangerment of animals is overhunting by humans. The practice of shooting animals as a sport can quickly bring the animals to extinction. This is a worldwide problem. The governments of countries around the world must unite to agree on laws regarding animals. Some animals may have large enough populations so hunting will not endanger them. Others must be protected.

There is still hope for animals who are already on the endangered species list. Some organizations are working hard to recreate habitats for them. Breeding programs are helping animal populations increase. We all have to be aware and think before we act. The things we do can affect more than just ourselves.

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

1) What would be the result if worldwide laws were passed to protect animal habitats?

2) Give an example of something that can be done to help keep endangered animals from becoming extinct.

3) What statement supports the idea that the author believes animals need to be protected?

4) Based on the article, what does extinction mean?

5) What is one way that humans affect animal populations?

# **Eratosthenes - Geographer & Mathematician**

**Cross-Curricular Focus: History/Social Sciences & Mathematics**



You have probably studied about how to locate places on Earth using lines of latitude and longitude. You have probably also studied about prime and composite numbers. Did you know that both of those important ideas came to us from the mind of one ancient Greek man? His name was Eratosthenes.

Eratosthenes lived in the city of Cyrene in Greece from 276 to 195 B.C. As an adult, he worked on ways to measure Earth. He observed and studied how Earth tilts on an axis. He even calculated the distance from Earth to the sun.

One of his discoveries was the need for a leap year to balance out the calendar year every fourth year. His measurements of very large distances were very accurate. Eratosthenes used a common measurement that was about as big as a city stadium to show distances as large as the circumference of Earth. He used his ideas to create an early world map. As the first geographer, he even invented the word geography, which is the study of Earth's physical features.

In addition to his studies of Earth, Eratosthenes was an accomplished mathematician. One area of math he focused on was prime and composite numbers. He used a number chart, which became known as the Sieve of Eratosthenes. He used the chart to cross off multiples of numbers, beginning with 2 and working his way up. He knew that if a number was a multiple of another number, it could not be a prime number. By crossing off all the multiples, Eratosthenes was left with only prime numbers on the chart. He circled these, then made a list of prime numbers. This tool is still used today to find smaller prime numbers. Eratosthenes was a remarkable man. His discoveries as a geographer and mathematician were very important. He also excelled in other areas. History honors him as a geographer and mathematician, but also as an athlete, a poet, a musician and an astronomer.

Name: \_\_\_\_\_

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) In your opinion, what was the greatest work of Eratosthenes? Why?

2) The many accomplishments of Eratosthenes are remembered many years after he was alive. What legacy would you like to leave for future generations?

3) In what country did Eratosthenes live?

4) What is the tool Eratosthenes developed for prime numbers?

5) It seems unusual to measure things based on the size of the city stadium. What common item or building might be used if you were going to do a similar thing today?

# Estimation

## Cross-Curricular Focus: Mathematics



Estimation can be a powerful tool in mathematics. You can use it to check an answer when you are finished solving a problem. It will tell you whether or not your answer is reasonable. If your answer is somewhat close to your estimate, you know that you are on the right track. If your answer is off by hundreds, thousands or more, you know that you need to check your work. You may have missed something simple. Maybe you did not line up the place value columns. You might have put a decimal point in the wrong place. Sometimes you have to go back to the beginning and start again. Your estimate tells you when that is necessary.

An estimate is also useful for finding an answer quickly when an **approximate** answer is good enough. If you are the host of a birthday party and want to know about how many people are coming, an estimate will probably work. However, if it is a seated dinner where each guest has a steak of his own, an estimate is not very practical. It may leave you with too many, or even worse, too few plates to serve your guests.

Knowing when to use an estimate, and when to solve for an exact answer is a life skill that comes with practice. Shopping is an excellent activity to help you practice your skills of estimation. You have \$23, and you are buying something that costs \$9.98. You can quickly change the numbers into friendly numbers in your head by rounding. Twenty-three is close to 20, and \$9.98 is close to 10. If you have \$20 and spend \$10, you will have \$10 left. When you go into the music store, you keep in mind that you have about \$10 left to spend. This saves you time as you look for a CD to play during your party. You know that if the CD costs more than \$10, you will not have enough money to buy it.

When you find a CD you think you want, you can look on the back and estimate again. If the playing time says 129 minutes, you can estimate that it plays for about two hours.

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

1) What is one beneficial thing about using estimation?

2) What is the difference between an approximate answer and an exact answer?

3) What is meant by the term friendly number?

4) Describe a time when you used estimation. How was it helpful?

5) Use what you have learned. What is a good estimate for  $48 + 37$ ? Round to friendly numbers, then estimate the sum.

# Evaluating Efficiency

## Cross-Curricular Focus: Mathematics



Name: \_\_\_\_\_

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

There are many ways to solve the same math problem. The method you choose depends on how well you know math. How comfortable are you with using addition, subtraction, multiplication and division? Can you apply math properties easily? There may be only one correct answer to a problem, but many different ways to solve it.

Any method that works for a student is a good method. You can use repeated addition if you don't remember the multiplication facts. You will still reach the correct answer. Sometimes students rely on one way because it is the only way they have ever seen. They don't consider that there may be a different way to do the same problem.

The way most people in the same culture solve a certain problem is called the standard algorithm for that kind of problem. However, the standard algorithm for the same kind of problem is often different from one culture to the next.

A math congress or math meeting can be very valuable for students. In the meeting, students share how they solved a math problem. The rest of the class watches and listens. Students share every method that someone used to solve the problem. All the methods are discussed. There are a couple of reasons why this kind of meeting is beneficial. First, each student's thinking is presented and honored. Second, students learn to talk about and explain their thinking processes. Third, students are introduced to new ways of solving problems. The teacher can even learn new ways from the students. Finally, students can evaluate the methods to see which method is the most efficient.

An inefficient method may give the correct answer. If it takes too long to get there, though, it is not practical to use. It can also be inefficient if it leads to an inaccurate answer. An efficient method is one where a student gets a correct answer with the least amount of effort. The method has to be repeatable with the numbers of any similar problem. The student also needs to understand why the method works.

Learning to evaluate different methods of solving math problems is important. It is one of many steps you must take in order to mature as a mathematician.

- 1) Have you ever considered trying to solve a math problem in more than one way? Why, or why not?
  
- 2) Have you ever thought you were "doing it wrong" because you were doing something different than other students, but then you got the correct answer? Explain.

- 3) Would you be willing to share an unusual method of solving a problem if you were given the opportunity? Why, or why not?
  
- 4) What makes a method of solving a problem inefficient?

- 5) How do you know if a method is efficient?

## Hide and Seek

### Cross-Curricular Focus: Life Science

In the wild, it often comes down to **predator and prey**. There is the hunter and there is the hunted. Organisms want to stay alive. They hide or escape from animals who would like to eat them. So how do they do it? They adapt to their environment.

One very helpful adaptation is called **camouflage**. You may have been surprised at some time by an animal that used camouflage. It blended into its surroundings so well that you nearly missed seeing it. Its coloring, markings or other physical features allowed it to blend in to the area around it.

Animals use camouflage to fool a predator. The hidden animal is not seen when a predator scans an area looking for food. Wild goats, for example, have coats that make them look invisible among rocks. A baby giraffe's coat helps it hide among the grass and trees. A chameleon is a lizard that will change colors depending on the surface it is on.

Camouflage often works the other way around, too. Predators can use camouflage to trap their prey. A predator can attack unexpectedly an animal it wants to eat. The prey animal doesn't see danger because the predator blends into the habitat. A leopard's spotted coat helps it blend in to the background and sneak up on its prey.

Another popular adaptation is **mimicry**. Mimicry is when an animal has the physical characteristics that makes it look like another animal or a plant. Some moths look like a wasp. Predators that don't like wasps will think the moth is a wasp and not eat it.

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

1) What is the function of camouflage in the wild?

2) How do animals use mimicry to protect themselves?

3) What's the difference between camouflage and mimicry?

4) If you were a wild animal, would you rather have the ability to mimic another animal or the ability to camouflage yourself? Why?

5) If a chameleon was on a green leaf, what color do you think it would be?

# Magnetic Attraction

## Cross-Curricular Focus: Physical Science

An object that attracts metals, especially iron, is called a **magnet**. The area near the magnet where it has enough power to attract things is called its magnetic field. The farther away from the magnet an item is, the weaker the magnetic field is. When it is weak, it is less likely an object will become attracted to the magnet.

Magnets can be either **permanent** or **temporary**. A permanent magnet stays magnetized for a long time. A temporary magnet loses its magnetism after only a short time. You can even turn something made out of iron into a temporary magnet by rubbing it against a permanent magnet. The more you rub, the stronger your temporary magnet gets. However, the effects will wear off over time.

The two ends of the magnets are called **magnetic poles**. The poles are found at the ends of bar magnets and the tips of the horseshoe magnets. They are the strongest parts of the magnet. Each magnet has a north pole and a south pole. Opposite poles attract, or pull toward each other. Poles that are the same repel, or push away from each other. A north pole and a south pole will pull toward each other. Two north poles will push away from each other. The same happens with two south poles. When you hold magnets, you can actually feel the push and pull effects of magnetism.

A special kind of temporary magnet uses electricity to create a magnetic field. It is called an **electromagnet**. An electromagnet can be an extremely strong magnet. However, it only acts like a magnet when it has electricity. A stronger electrical current will produce a stronger magnet. Unlike other magnets, an electromagnet can be controlled by a switch. When the switch turns the electrical current off of the electromagnet loses its magnetism. Whatever the electromagnet was holding drops to the ground. We use this technology to operate large cranes that lift heavy metal objects, such as cars. Electromagnets are also used to make motors run in small appliances. Combining regular magnets and electromagnets makes it possible for electrical energy to be turned into energy of motion.

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

1) Explain the difference between a temporary magnet and a permanent magnet.

2) Would two north poles attract each other or push away from each other?

3) What is different about an electromagnet?

4) What do we use electromagnets for?

5) What does attract mean when speaking about magnets?

# Measuring Temperature

## Cross-Curricular Focus: Physical Science

The thermometer is the most common tool for measuring temperature. Many thermometers use two different temperature scales: Fahrenheit and Celsius. You may have wondered how they relate to each other. Both scales were invented in the 1700's and are named after their inventors.

The Fahrenheit scale was invented by Gabriel Fahrenheit. He set the boiling point for water at  $212^{\circ}$ , and the freezing point at  $32^{\circ}$ . Temperatures are measured all along the scale, much like a number line or ruler. The unit of measurement for temperature

is a degree, instead of an inch on a ruler.

Anders Celsius invented the Celsius scale after the Fahrenheit scale. He kept Fahrenheit's anchor points. The anchor points are the temperatures at which water would freeze or boil. Celsius however, changed the numbers of his temperature scale. Under the Celsius scale, water freezes at  $0^{\circ}$  and boils at  $100^{\circ}$ . This numbering scale has been adopted for most scientific purposes. It works well with the metric system.

Many thermometers work because liquid changes its volume, or the amount of space it takes up, based on its temperature. When a liquid is cold, it takes up less space than it does when it is warm. Many of the changes in temperature are very small. Thermometers use a large bulb filed with liquid and a very narrow tube to show the changes. The markings on the thermometer are based on the freezing point and boiling point of water. Why? Because Gabriel Fahrenheit chose them as conditions that are easy to recreate. Anders Celsius agreed. Sometimes, inventors set the standard for everyone.

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

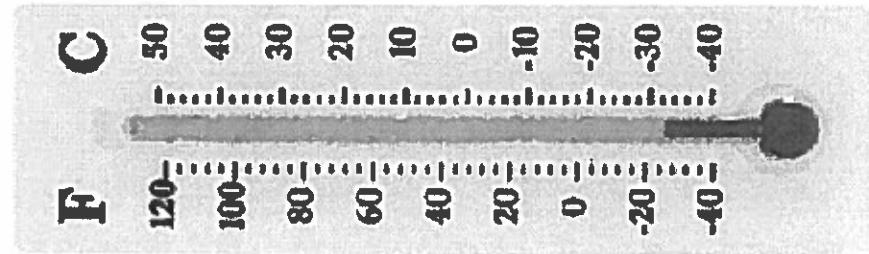
1) Which scale came first: Fahrenheit or Celsius?

2) Why do scientists use the Celsius scale?

3) Why do many thermometers use liquid?

4) What is the unit of measurement for temperature?

5) Which temperature would be more comfortable for most people:  $80^{\circ}$  Fahrenheit or  $80^{\circ}$  Celsius?



# Natural Resources

## Cross-Curricular Focus: History/Social Sciences



People often have decided where they wanted to live based on the **natural resources** that were available in the area. Natural resources are things that are useful to people and come from the earth. Materials for building shelter are natural resources. So are food sources such as fruits and vegetables, animals that could be caught or hunted and water. A region's climate and landforms let certain things grow in different areas. They also determine which organisms will be able to survive there. Regions with very rich soil make good farming communities. Poor soil may send farmers looking for better conditions. However, areas with poor soil may attract those who have other purposes for the land. Poor soil doesn't matter if you want to build a factory or if the land has grass for ranching.

Each area attracts people based on their interests and purposes. Areas that support many different interests will naturally have larger populations. While you may not think of the mountains, lakes, or oceans as natural resources, they are. Villages and cities built near water sources have been the most successful. People who want to catch fish for a living can do that by the ocean, but cannot in the desert. People living near water can use it to meet their daily needs. Water can also be used to transport goods to other areas to be sold.

Places that are difficult to reach will naturally have fewer people living in them. Places that are high on mountain tops are not very desirable to some people. Neither are places that are in the middle of hot, dry deserts.

For too long, humans have destroyed resources. We have been using up those that cannot be easily replaced. Renewable resources are those that can be replaced easily. We are fortunate to have many resources that are renewable, such as sun, wind, water and trees. We need to focus more on using renewable resources. This will protect our planet from further harm.

Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

1) Think about the natural resources near you. What are the things that made your family decide to live where you do?

2) What is a renewable resource?

3) Give some examples of shelter.

4) When you become an adult, will you choose to live the same place as your parents did? Why or why not?

5) What natural resources are available on the coast that might not be available somewhere else?

# Public Education

## Cross-Curricular Focus: Social Sciences



Name: \_\_\_\_\_

**Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.**

Many countries have national education programs. Some offer students a very basic education. Often, educational opportunities end with primary school. Parents who want their children to keep going to school have to pay a lot of money. Many students are trained to be skilled workers like carpenters, plumbers, and mechanics. They do this instead of continuing with academics. Only the smartest and richest students get to continue learning academic subjects in some countries. Thomas Jefferson had an idea about **public** education when the United States was a young country. However, the first public schools did not open until the 1840's. Until then, education was mainly for the rich.

Some people thought that school should be for everyone. Horace Mann and Henry Barnard wrote articles for families about education. They worked to raise support for common schools, the old term for a public school. A free public education was available to all primary grade students by the late 1800's.

Benjamin Franklin started secondary schools in 1751. Students were not required to attend. By the mid 1900s, school was a requirement for students until they turned 16. About 75% of students now graduate from high school in the U.S.

Public education in U.S. is mainly controlled by each individual state. Every state has a department of education which makes rules that apply to schools in that state. Local school districts oversee the schools in their area. The district hires personnel and manages the daily business of the schools. Many school districts receive money from local property taxes or new construction fees. State departments of education give districts money based on actual student attendance. The U.S. government provides about 8% of the overall public school budget.

1) What percentage of students now graduate from high school in the U.S.? \_\_\_\_\_

2) Do you think schools should be for everyone? Why or why not? \_\_\_\_\_

3) What does a school district do? \_\_\_\_\_

4) Do you think requiring students to attend school is a good idea? Why or why not? \_\_\_\_\_

5) What was a common school? \_\_\_\_\_

# Narrative Writing

**BEGINNING (DRAWINGS)**

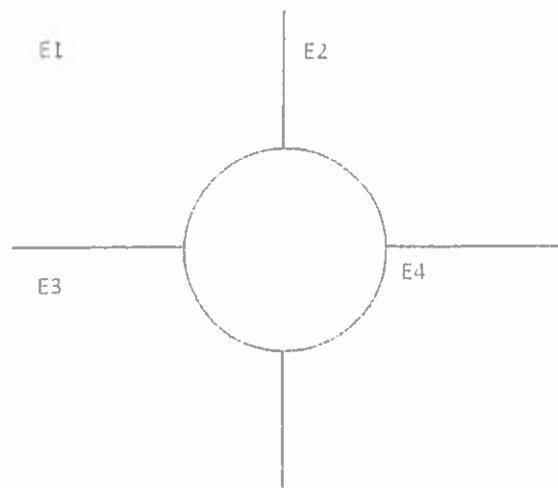
**BEGINNING (STORY ELEMENTS)**

Characters:

Setting:

Plot

**STORY EVENTS—THE MIDDLE (DRAWINGS)**



**STORY EVENTS**

E1

E2

E3

E4

**STORY ENDING**

**STORY CLIMAX & SOLUTION**

# Narrative Writing

## ○ BEGINNING (DRAWINGS)

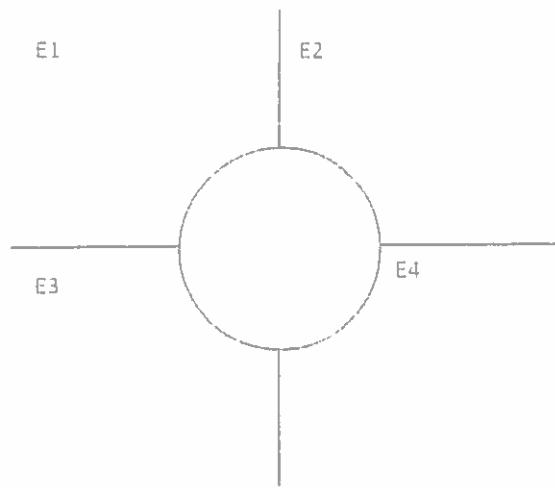
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## STORY EVENTS

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E4

## ○ STORY ENDING

## STORY CLIMAX & SOLUTION

# Narrative Writing

## BEGINNING (DRAWINGS)

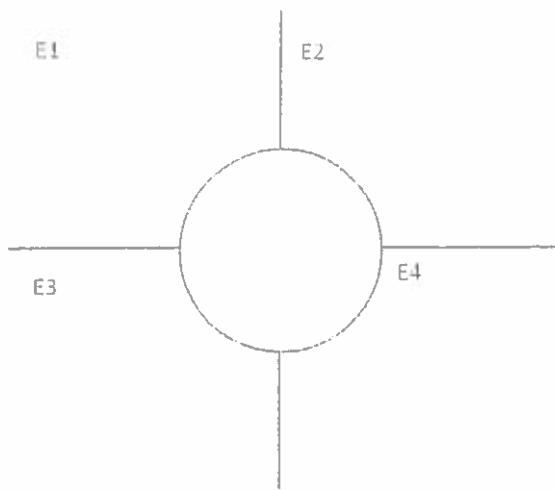
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## STORY EVENTS

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## STORY ENDING

## STORY CLIMAX & SOLUTION

# Narrative Writing

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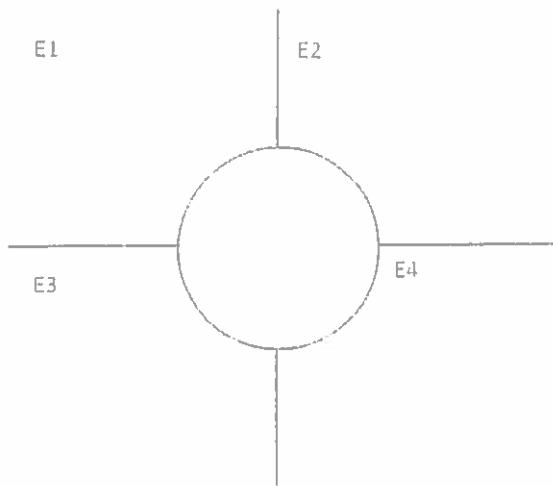
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