

# Examples of Rates

Study Link  
12.1



Look for examples of rates in newspapers, in magazines, and on labels.

Study the two examples below, and then list some of the examples you find. If possible, bring your samples to class.



Example Label on a can of corn  
says "Servings Per Container  $3\frac{1}{2}$ "



Example Light bulbs come in cardboard holders that have 4 bulbs. The holder doesn't say so, but there are always 4 bulbs in each holder.

Example \_\_\_\_\_

Example \_\_\_\_\_

Example \_\_\_\_\_

**Rates****Study Link**  
12.2

Solve the problems.



- Hotels R Us charges \$45 a night for a single room.  
At that rate, how much does a single room cost *per week*? \$ \_\_\_\_\_
- The Harrison family spends about \$84 a week for food. On average, how much do they spend *per day*? \$ \_\_\_\_\_
- Sharon practices playing the piano the same amount of time each day. She practiced a total of 4 hours on Monday and Tuesday. At that rate, how many hours would she practice *in a week*? \_\_\_\_\_ hours

<b>Hours</b>							
<b>Days</b>	1	2	3	4	5	6	7

**Challenge**

- People in the United States spend an average of 6 hours and 4 minutes each week reading newspapers.
  - That's how many minutes *per week*? \_\_\_\_\_ minutes per week
  - At that rate, how much time does an average person spend reading newspapers in a *3-day period*? \_\_\_\_\_ minutes

<b>Minutes</b>							
<b>Days</b>	1	2	3	4	5	6	7

# Water Usage

**Study Link**  
 12.3


According to the American Waterworks Association, Americans each use an average of 123 gallons of water a day for their personal needs. This seems like a large amount, but you may be surprised at how much water is used for even the shortest activities. For example, people use an average of 1 to 2 gallons of water just to brush their teeth. They use about 20 gallons of water when doing dishes by hand. They may use as much as 30 gallons when taking a shower.

For each problem, complete the rate table and answer the question.

1. If you use an average of 20 gallons of water when taking a shower and you take one shower a day, about how many gallons of water do you use in 1 year?

<b>Gallons</b>	20			
<b>Days</b>	1	7 (1 week)	30 (1 month)	365 (12 months)

Answer: About \_\_\_\_\_ gallons per year

2. The average American household uses about 2,100 gallons of water a week. About how many gallons of water does it use in 1 year?

<b>Gallons</b>		2,100		
<b>Days</b>	1	7 (1 week)	30 (1 month)	365 (12 months)

Answer: About \_\_\_\_\_ gallons per year

3. Madison uses about  $1\frac{1}{2}$  gallons of water each time she brushes her teeth. She brushes her teeth twice a day. About how many gallons of water does she use in 1 month for brushing teeth?

<b>Gallons</b>	3			
<b>Days</b>	1	7 (1 week)	30 (1 month)	365 (12 months)

Answer: About \_\_\_\_\_ gallons per month

4. About 39,000 gallons of water are used in making 1 new car. About how many gallons of water are used to make 5 new cars? About \_\_\_\_\_ gallons



# Unit Pricing

Study Link  
12.5



1. A package of 3 rolls of paper towels costs \$1.89.  
What is the price *per roll*?

\_\_\_\_\_



2. A 5-pound bag of rice costs \$1.85.  
What is the price *per pound*?

\_\_\_\_\_

3. Chewy worms are sold at \$2.40 per pound.  
What is the price *per ounce*?

\_\_\_\_\_

4. A 6-pack of bagels costs 90 cents.  
What is the price *per bagel*?

\_\_\_\_\_

5. A 2-pound bag of frozen corn costs \$1.88.  
What is the price *per pound*?

\_\_\_\_\_

6. A store sells yogurt in two sizes: the 8-ounce cup costs 72 cents, and the 6-ounce cup costs 60 cents. Which is the better buy? Explain your answer.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. Make up your own “better buy” problem. Then solve it.

\_\_\_\_\_

\_\_\_\_\_

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# Country Statistics

Study Link  
12.6



1. China has the longest border in the world—13,759 miles. Russia has the second longest border in the world—12,514 miles. How much shorter is Russia's border than China's border? \_\_\_\_\_ miles
2. The area of Russia is about 1,818,629 square miles. The area of Spain, including offshore islands, is about 194,897 square miles. About how many times larger is Russia than Spain? About \_\_\_\_\_ times larger
3. Students in China attend school about 251 days per year. Students in the United States attend school about 180 days per year.
  - a. About what percent of the year do Chinese students spend in school? About \_\_\_\_\_ %
  - b. About what percent of the year do American students spend in school? About \_\_\_\_\_ %
4. English is officially spoken in 54 countries. Portuguese is officially spoken in 8 countries. Portuguese is spoken in about what fraction of the number of English-speaking countries? About \_\_\_\_\_

5. The table to the right shows the countries in the world with the most neighboring countries.

Country	Number of Neighbors
Brazil	10
China	15
Dem. Rep. of Congo	9
Germany	9
Russia	14
Sudan	9

Use the data in the table to answer the following questions.

- a. Which country has the maximum number of neighbors? \_\_\_\_\_
- b. Which countries have the minimum number of neighbors? \_\_\_\_\_
- c. What is the range? \_\_\_\_\_
- d. What is the median? \_\_\_\_\_
- e. What is the mode? \_\_\_\_\_