



Unit 12 Study Links Packet  
Name \_\_\_\_\_

**Students and Parents:** Attached is the packet of Study Links for this math unit. Complete only the assigned Study Link for homework. The assigned Study Link will be noted in the planner of your go-home folder. Please do not take apart the packet.

Please do NOT tear out pages!

Due Date:

Parent Initial:

\_\_\_\_\_  
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\_\_\_\_\_
- Study Link 12-1 Examples of Rates
  - \*Study Link 12-2 Rates
  - \*Study Link 12-3 Mammal Rates
  - \*Study Link 12-4 Unit Prices
  - \*Study Link 12-5 Unit Pricing
  - Study Link 12-6 Country Statistics

**Parents :** When the study link is done and you have gone over it with your child (answer key is in pink family letter), please initial the blank next to the completed link. When you see an \* by the Study Link, this signals that concepts on the assignment are going to be assessed at the end of the unit. If there is an \* by the Study Link number and your child struggled with the concepts on the Study Link, be sure to keep practicing the concepts in preparation for the unit assessment.

**4th Grade Students - Be responsible.** Once you get a parent's initials, put the packet (do not tear off sheets) in your go-home folder so it comes back to school the next day. The packet will be checked in as a classroom assignment!

## **Unit 12**

### **Lesson 12.2, 12.3**

- I can solve rate problems

### **Review Objectives**

- I can find factors and factor pairs
- I can compare and order positive and negative numbers
- I can add and subtract decimals
- I can convert among units of capacity
- I can calculate volume of 3 dimensional figures
- I can solve open sentences

STUDY LINK  
12•1

## Examples of Rates



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 1/2"*

**Nutrition Facts**

Serving Size 110 g  
Servings Per Container 3 1/2  
Amount Per Serving

Example: *Lightbulbs come in packages of 4 bulbs. The package doesn't say so, but generally there are 4 bulbs in each package.*

Example: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Example: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Example: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Practice**

2.  $\frac{4}{5} - \frac{1}{5} =$  \_\_\_\_\_

3. \_\_\_\_\_  $= \frac{7}{8} - \frac{3}{4}$

4. \_\_\_\_\_  $= \frac{1}{9} + \frac{8}{9}$

5.  $\frac{1}{3} + \frac{3}{6} =$  \_\_\_\_\_

**STUDY LINK**  
**12•2**

# Rates



Solve the problems.

- Hotels R Us charges \$45 per night for a single room.  
At that rate, how much does a single room cost *per week*? \$ \_\_\_\_\_
- The Morales family spends about \$84 each 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 combined. 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

**Try This**

- 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

**Practice**

- \_\_\_\_\_ =  $24 * 379$
- $870 * 63 =$  \_\_\_\_\_
- $652 \div 8 =$  \_\_\_\_\_
- $546 \div 42 =$  \_\_\_\_\_



**STUDY LINK**  
**12•3**

# Mammal Rates



1. A mole can dig a tunnel 300 feet long in one night.  
How far could a mole dig in one week? About \_\_\_\_\_ feet
2. An elephant may eat 500 pounds of hay and drink 60 gallons of water in one day.
  - a. About how many pounds of hay could an elephant eat per week? About \_\_\_\_\_ pounds
  - b. About how many gallons of water could an elephant drink per week? About \_\_\_\_\_ gallons
3. The bottle-nosed whale can dive to a depth of 3,000 feet in 2 minutes. About how many feet is that per second? About \_\_\_\_\_ feet per second
4. A good milking cow will give up to 1,500 gallons of milk in a year.
  - a. About how many gallons is that in 3 months? About \_\_\_\_\_ gallons
  - b. About how many *quarts* is that in 3 months? About \_\_\_\_\_ quarts

**Try This**

5. Sloths spend up to 80 percent of their lives sleeping. Not only is a sloth extremely sleepy, but it is also very slow. A sloth travels on the ground at a speed of about 7 feet per minute. In the trees, its speed is about 15 feet per minute.
  - a. After one hour, how much farther would a sloth have traveled in the trees than on the ground (if it didn't stop to sleep)? About \_\_\_\_\_ feet
  - b. About how long would it take a sloth to travel 1 mile on the ground? (*Hint: There are 5,280 feet in a mile.*) About \_\_\_\_\_ minutes,  
or \_\_\_\_\_ hours

**Practice**

6.  $59 \times 27 =$  \_\_\_\_\_
7. \_\_\_\_\_  $= 648 \times 85$
8.  $904 \div 5 =$  \_\_\_\_\_
9. \_\_\_\_\_  $= 536 / 8$

**STUDY LINK**  
**12·4**

**Unit Prices**



Solve the unit price problems below. Complete the tables if it is helpful to do so.

1. A 12-oz bag of pretzels costs 96 cents. The unit price is \_\_\_\_\_ per ounce.

<b>Dollars</b>				0.96
<b>Ounces</b>	1	3	9	12

2. A package of 3 rolls of paper towels costs \$2.07. The unit price is \_\_\_\_\_ per roll.

<b>Dollars</b>			2.07
<b>Rolls</b>	1	2	3

3. A 4-liter bottle of water costs \$1.40. The unit price is \_\_\_\_\_ per liter.

<b>Dollars</b>				1.40
<b>Liters</b>	1	2	3	4

4. Choose 4 items from newspaper ads. In the table below, record the name, price, and quantity of each item. Leave the Unit Price column blank.

Item	Quantity	Price	Unit Price
<i>Golden Sun Raisins</i>	<i>24 ounces</i>	<i>\$2.99</i>	

**Practice**

Name the factor pairs for each number.

5. 12 \_\_\_\_\_ 6. 50 \_\_\_\_\_

**STUDY LINK**  
**12.5**

# Unit Pricing



1. A package of 3 muffins costs \$1.89.  
What is the price *per muffin*? \_\_\_\_\_

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 \$2.11.  
What is the price *per bagel*? \_\_\_\_\_

5. A 2-pound bag of frozen corn costs \$2.03.  
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.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Practice

Name all the factors.

8. 42 \_\_\_\_\_

9. 23 \_\_\_\_\_



**STUDY LINK**  
**12•6**

# Country Statistics



- 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
- 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? \_\_\_\_\_ times larger
- Students in China attend school about 251 days per year.  
Students in the United States attend school about 180 days per year.
  - About what percent of the year do Chinese students spend in school? \_\_\_\_\_%
  - About what percent of the year do American students spend in school? \_\_\_\_\_%
- 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? \_\_\_\_\_

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.

- Which country has the maximum number of neighbors? \_\_\_\_\_
- What is the range? \_\_\_\_\_
- What is the mode? \_\_\_\_\_
- What is the median? \_\_\_\_\_