Grade 7 FUNPACK

TEKS 7.4D *solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease.*

Activity Directions:

Items Needed: *Ratios, Rates and Percents* activity, scissors, glue

1. Distribute the activity to partner groups.
2. Students should cut apart the cards and then solve/simplify the verbal descriptions. Each verbal description and corresponding solution should be glued to the template next to the correct problem type: ratio, rate, percent, percent increase, percent decrease. (See below.)
3. Have students practice questions coded to TEKS 7.4D.

Name _____ *Ratios, Rates and Percents*

Find three verbal descriptions and matching representations for each problem type. Glue the descriptions and representations to the template.

Ratio: shows how much of one thing there is compared to another thing.	Twelve girls created 18 door wreaths.	2:3 or $\frac{2}{3}$
	A baker bought 36 eggs that were contained in 3 cartons.	12:1 or $\frac{12}{1}$
	Mrs. John teaches a class of 10 boys and 14 girls.	5:7 or $\frac{5}{7}$
Rate: a comparison of 2 related quantities. In describing the units of a rate, the word "per" is used to separate the units of the two measurements.	Susan made $150 after working five hours.	$30 per hour
	Mr. Martin drove 225 miles in 3 hours.	75 miles per hour
	Isaiah drove 550 miles using 22 gallons of gasoline.	25 miles per gallon
Percent: is a ratio expressed as a fraction of 100. Percentages are used to express how large or small one quantity is relative to another quantity.	40 hours is what part of 120 hours?	$33\frac{1}{3}\%$
	12 red cars are what part of 48 total cars?	25%
	$1500 is what part of $2000?	75%
Percent Increase: the measure of percent change, which is the extent to which a variable gains value. The figure is arrived at by comparing the initial (or before) and final (or after) quantities.	The number of students changed from 260 to 325.	25%
	A savings account balance changed from $600 to $780.	30%
	The price of gas went from $3 to $3.30.	10%
Percent Decrease: the measure of percent change, which is the extent to which a variable loses value. The figure is arrived at by comparing the initial (or before) and final (or after) quantities.	Shoes originally priced at $75 sold for $60.	20%
	The student attendance rate changed from 420 to 294.	30%
	The price of the tickets changed from $16 to $14.80.	7.5%

Name _____ *Ratios, Rates and Percents*

Find three verbal descriptions and matching representations for each problem type. Glue the descriptions and representations to the template.

Ratio: shows how much of one thing there is compared to another thing.	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)
Rate: a comparison of 2 related quantities. In describing the units of a rate, the word "per" is used to separate the units of the two measurements.	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)
Percent: is a ratio expressed as a fraction of 100. Percentages are used to express how large or small one quantity is relative to another quantity.	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)
Percent Increase: the measure of percent change, which is the extent to which a variable gains value. The figure is arrived at by comparing the initial (or before) and final (or after) quantities.	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)
Percent Decrease: the measure of percent change, which is the extent to which a variable loses value. The figure is arrived at by comparing the initial (or before) and final (or after) quantities.	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)
	(glue description/problem)	(glue representation/solution)

Cut apart the verbal descriptions and matching numeric representations. Organize them on the template by problem type.

Susan made $150 after working five hours.	40 hours is what part of 120 hours?	Mr. Martin drove 225 miles in 3 hours.
Shoes originally priced at $75 sold for $60.	Twelve girls created 18 door wreaths.	The number of students changed from 260 to 325.
Isaiah drove 550 miles using 22 gallons of gasoline.	12 red cars are what part of 48 total cars?	The student attendance rate changed from 420 to 294.
A baker bought 36 eggs that were contained in 3 cartons.	A savings account balance changed from $600 to $780.	$1500 is what part of $2000?
The price of the tickets changed from $16 to $14.80.	Mrs. John teaches a class of 10 boys and 14 girls.	The price of gas went from $3 to $3.30.

2:3 or $\frac{2}{3}$	75 miles per hour	20%
30%	25%	25%
$33\frac{1}{3}\%$	7.5%	5:7 or $\frac{5}{7}$
$30 per hour	12:1 or $\frac{12}{1}$	75%
30%	10%	25 miles per gallon

Name _____ Date _____

TEKS 7.4D *solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease.*

TEKS 7.4D Mini-Assessment

1. The ratio of boys to girls in Mr. Washington's class is 2 to 3. There are 16 boys in the class.

What is the total number of students in Mr. Washington's class?

Enter your answer in the space provided.

2. The price of a fishing rod was reduced from \$90 to \$75. By what percentage was the price of the fishing rod reduced?

Ⓐ 20%

Ⓑ $16\frac{2}{3}\%$

Ⓒ 15%

Ⓓ $18\frac{1}{3}\%$

3. A bakery owner recorded the number of customers who bought a cupcake with or without sprinkles and classified the buyers by age. The results are shown in the table.

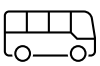
	Cupcakes	
	With Sprinkles	Without Sprinkles
Age 10 – 35	10	3
Age 36 +	4	3

What percentage of these customers bought a cupcake with sprinkles during this time?

Enter your answer in the space provided.

4. A tour bus traveled at an average speed of 70 miles per hour for 2.5 hours and then traveled at an average speed of 55 miles per hour for 3.5 hours. What was the total distance in miles that the tour bus traveled during this time?

Enter your answer in the space provided.



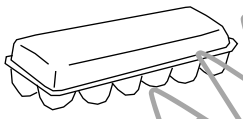
5. The price of one dozen eggs increased from $1.80 to $3.60. By what percentage was the price of one dozen eggs increased?

Ⓐ 100%

Ⓑ 10%

Ⓒ 1%

Ⓓ 18%



6. A game biologist mixed $\frac{2}{3}$ bag of protein feed with 4 bags of corn for the deer. How many bags of protein feed would be used if 45 bags of corn were used?

Enter your answer in the space provided.

7. A museum insect exhibit contained 1,600 insects.

- 25% of the collection were beetles.
- 30% of the collection were ants.
- 10% were mosquitos.

The remaining insects were bees. How many bees were in the museum exhibit?

Enter your answer in the space provided.

8. The number of ants in a colony grew from 400 to 1,400. By what percentage did the number of ants in this ant colony increase?

Enter your answer in the space provided.

9. In County A, the ratio of car accidents in the month of May compared to the month of June is 6 to 4. County A experienced a total of 300 accidents in those two months combined.

Choose the correct answer from each drop-down menu to complete the statement.

There were _____ car accidents in May and _____ car accidents in June.

☐ 180 ☐ 120	☐ 180 ☐ 120

---

10. A local business sells identical Easter baskets every spring. Every basket contains 20 decorated eggs. A shopper bought 4 of these baskets and found they contained a total of 12 eggs with chocolate candy inside.

Based on this information, which predictions can the shopper make about buying more Easter baskets from this business in the future?

Select TWO correct answers.

- ☐ There will be 4 more Easter eggs with chocolate candy in 7 baskets than in 5 baskets.
- ☐ There will be 3 more Easter eggs with chocolate candy in 10 baskets than in 8 baskets.
- ☐ There will be 6 more Easter eggs with chocolate candy in 8 baskets than in 6 baskets.
- ☐ There will be 9 more Easter eggs with chocolate candy in 9 baskets than in 6 baskets.
- ☐ There will be 1 more Easter egg with chocolate candy in 5 baskets than in 4 baskets.