

Times or Difference?

Sort comparison word problems by the relationship they describe.

NY-4.OA.2 "Multiply or divide to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison. Use drawings and equations with a symbol for the unknown number to represent the problem."

NAME _____

DATE _____

TIMES COMPARISON

One amount is described as a number of times another amount. Multiply to find a larger unknown, or divide to find a smaller unknown.

A giant pumpkin has 5 times the mass of a melon. The pumpkin has a mass of 40 kilograms.
Equation: $5 \times m = 40$, so $m = 8$ kilograms.

DIFFERENCE COMPARISON

One amount is described as a certain number more or fewer than another amount. Add to find a larger unknown, or subtract to find a smaller unknown.

A theater has 17 more seats than an art room. The theater has 62 seats. Equation: $62 - 17 = a$, so $a = 45$ seats.

1 SORT _____ 8 items

Circle TIMES or DIFFERENCE for each word problem; then choose two items, one from each category, and explain the comparison words and relationship that helped you sort them.

- | | | |
|-------|---|---|
| 1. | Noah has 4 times as many trading cards as Imani. Imani has 7 cards. How many cards does Noah have? | <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block;">TIMES</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block; margin-left: 10px;">DIFFERENCE</div> |
| <hr/> | | |
| 2. | A 45-foot rope is 5 times as long as a jump rope. How long is the jump rope? | <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block;">TIMES</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block; margin-left: 10px;">DIFFERENCE</div> |
| <hr/> | | |
| 3. | Zoe has 9 more stickers than Ben. Ben has 13 stickers. How many stickers does Zoe have? | <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block;">TIMES</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block; margin-left: 10px;">DIFFERENCE</div> |
| <hr/> | | |
| 4. | Ava read 3 times as many pages as Kai. Ava read 36 pages. How many pages did Kai read? | <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block;">TIMES</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block; margin-left: 10px;">DIFFERENCE</div> |
| <hr/> | | |
| 5. | A blue ribbon is 18 centimeters longer than a green ribbon. The blue ribbon is 53 centimeters long. How long is the green ribbon? | <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block;">TIMES</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block; margin-left: 10px;">DIFFERENCE</div> |
| <hr/> | | |
| 6. | Mila has 11 fewer shells than Owen. Mila has 24 shells. How many shells does Owen have? | <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block;">TIMES</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block; margin-left: 10px;">DIFFERENCE</div> |
| <hr/> | | |
| 7. | A farm has 8 times as many goats as llamas. The farm has 64 goats. How many llamas does it have? | <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block;">TIMES</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block; margin-left: 10px;">DIFFERENCE</div> |
| <hr/> | | |
| 8. | There are 6 times as many red balloons as yellow balloons. There are 9 yellow balloons. How many red balloons are there? | <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block;">TIMES</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px 10px; display: inline-block; margin-left: 10px;">DIFFERENCE</div> |

2

PROVE IT

Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ HOW I KNEW _____

ITEM # _____ HOW I KNEW _____

3

MAKE YOUR OWN

One of each

Write one new TIMES word problem and one new DIFFERENCE word problem.

TIMES

DIFFERENCE

CHALLENGE

A 72-page atlas has 9 times as many pages as a guidebook. How many pages does the guidebook have? Draw a bar model, write an equation using g for the guidebook pages, and solve.

PART 1 • SORT

#	ITEM	CATEGORY	WHY
1	Noah has 4 times as many trading cards as Imani. Imani has 7 cards. How many cards does Noah have?	TIMES	The amounts are related by a factor of 4.
2	A 45-foot rope is 5 times as long as a jump rope. How long is the jump rope?	TIMES	The unknown is the smaller amount in a times relationship, so division would be used.
3	Zoe has 9 more stickers than Ben. Ben has 13 stickers. How many stickers does Zoe have?	DIFFERENCE	The amounts differ by 9, not by a factor.
4	Ava read 3 times as many pages as Kai. Ava read 36 pages. How many pages did Kai read?	TIMES	The amounts are related by a factor of 3.
5	A blue ribbon is 18 centimeters longer than a green ribbon. The blue ribbon is 53 centimeters long. How long is the green ribbon?	DIFFERENCE	The lengths differ by 18 centimeters.
6	Mila has 11 fewer shells than Owen. Mila has 24 shells. How many shells does Owen have?	DIFFERENCE	The amounts differ by 11 shells.
7	A farm has 8 times as many goats as llamas. The farm has 64 goats. How many llamas does it have?	TIMES	The amounts are related by a factor of 8.
8	There are 6 times as many red balloons as yellow balloons. There are 9 yellow balloons. How many red balloons are there?	TIMES	The amounts are related by a factor of 6.

PART 2 • PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 • MAKE YOUR OWN (SAMPLE ANSWERS)

- **TIMES:** A chef prepares 3 times as many soups as salads. The chef prepares 15 salads. How many soups does the chef prepare?
- **DIFFERENCE:** A garden has 14 fewer tulips than daisies. The garden has 31 daisies. How many tulips does it have?

Challenge: Bar model: Split a 72-page bar into 9 equal parts. Each part is 8 pages. Equation: $9 \times g = 72$. $g = 8$ pages.

TIMES: 1, 2, 4, 7, 8. DIFFERENCE: 3, 5, 6. In Part 2, students should name a factor relationship for TIMES or a fixed amount more or fewer for DIFFERENCE.