Reasoning and Problem Solving
Step 1: Comparing Statements

National Curriculum Objectives:

Mathematics Year 3: (3C6) Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
Mathematics Year 3: (3C7) Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Use known multiplication facts to explain a multiplication error using arrays. Includes multiples of 2, 3, 4, 5 and 8. Using the words 'is equal to' to support the inequality symbol.
Expected Use known multiplication facts to explain a multiplication and division error using arrays. Includes multiples of 2, 3, 4, 5 and 8.
Greater Depth Use known multiplication facts to explain multiplication and division errors. Includes multiples of 2, 3, 4, 5 and 8.

Questions 2, 5 and 8 (Problem Solving)
Developing Use knowledge of multiplication facts to insert digit cards into a comparison statement to make it correct. Four digit cards and two missing numbers. Includes multiples of 2, 3, 4, 5 and 8. Using the words 'is greater than' and 'is less than' to support the inequality symbols. Scaffolding given instead of pictorial support.
Expected Use knowledge of multiplication facts to insert digit cards into a comparison statement to make it correct. Six digit cards and two missing numbers. Includes multiples of 2, 3, 4, 5 and 8.
Greater Depth Use knowledge of multiplication facts to insert digit cards into a comparison statement to make it correct. Six digit cards and three missing numbers. Includes multiples of 2, 3, 4, 5 and 8.

Questions 3, 6 and 9 (Reasoning)
Developing Use knowledge of multiplication to explain why a statement is incorrect. Includes multiples of 2, 3, 4, 5 and 8. Pictorial support given. Using words to support the inequality symbols.
Expected Use knowledge of multiplication and repeated addition to explain why a statement is incorrect. Includes multiples of 2, 3, 4, 5 and 8.
Greater Depth Use knowledge of multiplication, division and addition to explain why a statement is incorrect. Includes multiples of 2, 3, 4, 5 and 8. Some statements include two operations.

More Year 3 Multiplication and Division resources.

Did you like this resource? Don't forget to review it on our website.

Comparing Statements

1a. Ella says,

8 x 4 = 2 x 4
is equal to

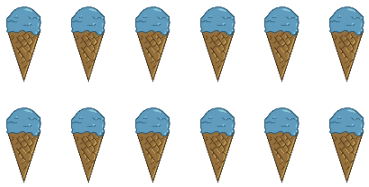
Is Ella correct? Explain how you know.

D R

Comparing Statements

1b. Jude says,

12 x 3 = 2 x 6
is equal to



Is Jude correct? Explain how you know.

D R

2a. Use the digit cards to complete the statement. Find 3 different possibilities.

2	5	3	4

☐ x 5 > 2 x ☐
is greater than

D PS

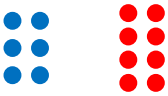
2b. Use the digit cards to complete the statement. Find 3 different possibilities.

2	4	3	8

☐ x 4 < 10 x ☐
is less than

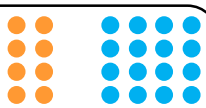
D PS

3a. Spot the odd one out.



A. 3 x 2 < 4 x 2
is less than

B. 2 x 2 > 2 x 3
is greater than



C. 4 x 2 < 4 x 4
is less than

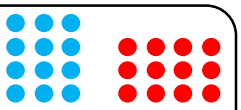
D. 3 x 5 > 3 x 4
is greater than

Explain why.

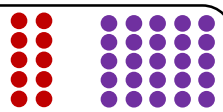
D R

3b. Spot the odd one out.

A. 2 x 5 < 3 x 4
is less than



B. 4 x 3 = 3 x 4
is equal to



C. 5 x 2 = 5 x 5
is equal to

D. 5 x 3 > 4 x 3
is greater than

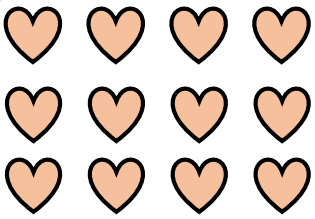
Explain why.

D R

Comparing Statements

4a. Macy says,

12 ÷ 4 = 3 x 4



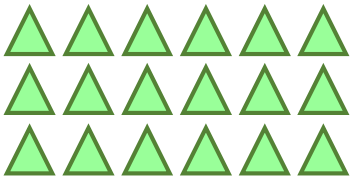
Is Macy correct? Explain how you know.

E

R

4b. Isaac says,

18 ÷ 3 = 3 x 6



Is Isaac correct? Explain how you know.

E

R

5a. Use the digit cards to complete the statement. Find 3 different possibilities.

8	2	3	7	4	12

☐ x 4 > 6 x ☐

E

PS

5b. Use the digit cards to complete the statement. Find 3 different possibilities.

4	12	5	3	8	2

5 x ☐ < ☐ x 8

E

PS

6a. Spot the odd one out.

A. 6 x 3 > 8 x 2

B. 4 x 4 > 5 + 5 + 5

C. 5 x 8 = 8 x 5

D. 6 x 2 < 4 + 4 + 4

Explain why.

E

R

6b. Spot the odd one out.

A. 4 x 8 < 8 + 8 + 8

B. 8 x 3 = 3 x 8

C. 3 + 3 + 3 < 6 x 2

D. 6 x 5 > 4 x 4

Explain why.

E

R

Comparing Statements

7a. Skye says,

36 ÷ 3 = 6 x 2 add 2 x 4

Is Skye correct? Explain how you know.

GD R

Comparing Statements

7b. Rakim says,

36 ÷ 4 = 7 x 4 add 4 x 3

Is Rakim correct? Explain how you know.

GD R

8a. Use the digit cards to complete the statement. Find 3 different possibilities.

8	2	3	6	4	12

☐ x ☐ > 9 x ☐ add 5

GD PS

8b. Use the digit cards to complete the statement. Find 3 different possibilities.

4	12	5	3	8	2

11 x ☐ add 3 < ☐ x ☐

GD PS

9a. Spot the odd one out.

A. 8 x 5 < 6 x 4 add 8

B. 5 x 8 > 8 x 4 add 4

C. 4 x 8 < 5 x 6 add 5

D. 8 x 3 = 4 x 5 add 4

Explain why.

GD R

9b. Spot the odd one out.

A. 8 x 8 > 6 x 8 add 6

B. 8 x 5 < 4 x 6 add 3

C. 3 x 8 = 9 x 2 add 6

D. 6 x 5 > 4 x 4 add 9

Explain why.

GD R

Reasoning and Problem Solving Comparing Statements

Developing

1a. No, 8 x 4 = 32 and 2 x 4 = 8. 8 is less than 32.

2a. Various answers, for example: 5 x 5 > 2 x 2; 5 x 2 > 2 x 4; 5 x 3 > 2 x 4

3a. B is the odd one out as the statement is incorrect. 2 x 2 is less than 2 x 3.

Expected

4a. No, 12 ÷ 4 = 3 and 3 x 4 = 12. So, 12 ÷ 4 is less than 3 x 4.

5a. Various answers, for example: 12 x 4 > 6 x 2; 7 x 4 > 6 x 3; 4 x 4 > 6 x 2

6a. D is the odd one out as the statement is incorrect. 6 x 2 = 12 and 4 + 4 + 4 = 12 The statement should be 6 x 2 = 4 + 4 + 4.

Greater Depth

7a. No, 36 ÷ 3 = 12 and (6 x 2 =) 12 add (2 x 4 =) 8 = 20. The statement should be 36 ÷ 3 < 6 x 2 add 2 x 4.

8a. Various answers, for example: 12 x 8 > 9 x 2 add 5; 6 x 8 > 9 x 3 add 5; 4 x 8 > 9 x 2 add 5

9a. A is the odd one out as the statement is incorrect. 8 x 5 = 40 and 6 x 4 = 24 add 8 = 32. The statement should be 8 x 5 > 6 x 4 add 8.

Reasoning and Problem Solving Comparing Statements

Developing

1b. No, 12 x 3 = 36 and 2 x 6 = 12. So, 12 x 3 is greater than 2 x 6.

2b. Various answers, for example: 2 x 4 < 10 x 8; 8 x 4 < 10 x 4; 3 x 4 < 10 x 8

3b. C is the odd one out as the statement is incorrect. 2 x 5 = 10 and 5 x 5 = 25. The statement should be 2 x 5 < 5 x 5.

Expected

4b. No, 18 ÷ 3 = 6 and 3 x 6 = 18. So, 18 ÷ 3 is less than 3 x 6.

5b. Various answers, for example: 5 x 2 < 12 x 8; 5 x 4 < 8 x 8; 5 x 3 < 4 x 8

6b. A is the odd one out as the statement is incorrect. 4 x 8 = 32 and 8 + 8 + 8 = 24. The statement should be 4 x 8 > 8 + 8 + 8.

Greater Depth

7b. No, 36 ÷ 4 = 9 and (7 x 4 =) 28 add (4 x 3 =) 12 = 40. The statement should be 36 ÷ 4 < 7 x 4 add 4 x 3.

8b. Various answers, for example: 11 x 2 add 3 < 12 x 8; 11 x 3 add 3 < 12 x 5; 11 x 4 add 3 < 12 x 8

9b. B is the odd one out as the statement is incorrect. 8 x 5 = 40 and 4 x 6 = 24 add 3 = 27. The statement should be 8 x 5 > 4 x 6 add 3.