

Varied Fluency

Step 2: Related Calculations

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:

Developing Questions to support using known multiplication facts to solve other multiplication problems, using multiples of 2, 3, 4, 5 and 8 times by a multiple of 10. Includes pictorial support for all questions and completed related known fact.

Expected Questions to support using known multiplication facts to solve other multiplication problems, using multiples of 2, 3, 4, 5 and 8 times by a multiple of 10. Includes some pictorial support.

Greater Depth Questions to support using known multiplication facts to solve other multiplication problems, using multiples of 2, 3, 4, 5 and 8 times by a multiple of 10 or 100.

More [Year 3 Multiplication and Division](#) resources.

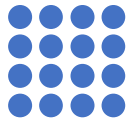
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Related Calculations

Related Calculations

1a. Match the related facts.

A. 4×4



1. 5×30

B. 6×2



2. 2×60

C. 5×3



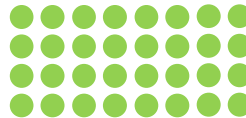
3. 40×4



VF

1b. Match the related facts.

A. 8×4



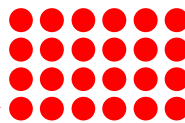
1. 80×2

B. 8×2



2. 60×4

C. 6×4



3. 40×8



VF

2a. Tick the fact that will help you solve 30×2 .

$3 \times 2 = 6$

$6 \times 3 = 18$

$7 \times 2 = 14$



VF

2b. Tick the fact that will help you solve 80×3 .

$6 \times 3 = 18$

$8 \times 3 = 24$

$6 \times 4 = 24$



VF

3a. True or false?

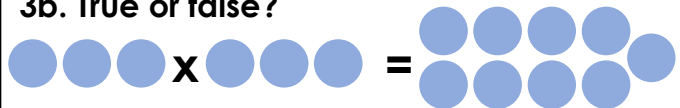


If $2 \times 40 = 80$, then 80 divided by $4 = 20$.



VF

3b. True or false?

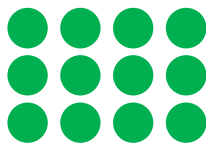


If $3 \times 30 = 90$, then 90 divided by $30 = 30$.



VF

4a. Complete the fact family.



$\times 3 = 120$

$\times 4 = 120$

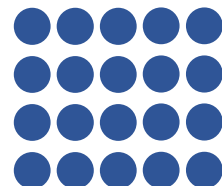
$120 \div$ $= 40$

$120 \div$ $= 30$



VF

4b. Complete the fact family.



$40 \times$ $= 200$

$4 \times$ $= 200$

$200 \div$ $= 40$

$200 \div$ $= 50$



VF

Related Calculations

Related Calculations

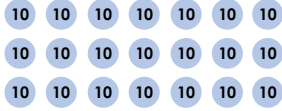
5a. Match the related facts.

A. 20×6



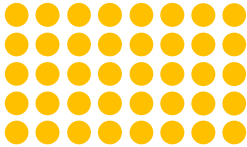
1. 7×30

B. 3×70



2. 80×5

C. 5×8



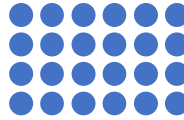
3. 60×2



VF

5b. Match the related facts.

A. 6×4



1. 2×7

B. 3×4



2. 60×4

C. 70×2



3. 40×3



VF

6a. Tick the fact that will help you solve 60×3 .

$2 \times 9 = 18$

$3 \times 6 = 18$

$4 \times 8 = 32$



VF

6b. Tick the fact that will help you solve 70×4 .

$7 \times 3 = 21$

$3 \times 8 = 24$

$4 \times 7 = 28$



VF

7a. True or false?

If $3 \times 80 = 240$, then 240 divided by $8 = 30$.



VF

7b. True or false?

If $3 \times 40 = 120$, then 120 divided by $40 = 30$.



VF

8a. Complete the fact family.

$80 \times 2 = \square$

$\square \times 8 = 160$

$160 \div \square = 80$

$\square \div 8 = \square$



VF

8b. Complete the fact family.

$30 \times 5 = \square$

$\square \times 3 = 150$

$150 \div \square = 50$

$\square \div 30 = \square$



VF

Related Calculations

9a. Complete the calculations so that they are matched related calculations.

$$\square \times 6 \longrightarrow \square \times 30$$

$$1,000 \div \square \longrightarrow \square \times \square$$

$$\square \times 8 \longrightarrow \square \div 40$$



VF

Related Calculations

9b. Complete the calculations so that they are matched related calculations.

$$\square \times 8 \longrightarrow 6 \times \square$$

$$3 \times 50 \longrightarrow \square \div \square$$

$$800 \div \square \longrightarrow \square \times \square$$



VF

10a. Complete the number sentences for the related facts using the same number in each calculation.

$$3 \times \square = 90$$

$$\square \times 30 = 900$$

$$900 \div \square = 30$$



VF

10b. Complete the number sentences for the related facts using the same number in each calculation.

$$3 \times \square = 60$$

$$\square \times 30 = 600$$

$$600 \div 30 = \square$$



VF

11a. Complete the number sentences to make the statement true.

If $? \times 60 = 180$ and $6 \times ? = 180$,
then $? \div 60 = ?$



VF

11b. Complete the number sentences to make the statement true.

If $5 \times ? = 100$ and $? \times 50 = 100$,
then $? \div ? = 20$.



VF

12a. Complete the calculations so they are related facts.

$$3 \times \square = 24, \quad 3 \times 80 = \square$$

$$\square \times 8 = 32, \quad 320 \div \square = \square$$



VF

12b. Complete the calculations so they are related facts.

$$6 \times \square = 24, \quad 40 \times 6 = \square$$

$$\square \times 8 = 64, \quad 80 \times \square = \square$$



VF

Varied Fluency Related Calculations

Developing

1a. **A3; B2; C1**

2a. **$3 \times 2 = 6$**

3a. **True**

4a.

40	x	3	=	120
30	x	4	=	120
120	÷	3	=	40
120	÷	4	=	30

Expected

5a. **A3; B1; C2**

6a. **$3 \times 6 = 18$**

7a. **True**

8a.

80	x	2	=	160
20	x	8	=	160
160	÷	2	=	80
160	÷	8	=	20

Greater Depth

9a. **Various answers, for example:**

$$\boxed{3} \times 6 \longrightarrow \boxed{6} \times 30$$

$$1,000 \div \boxed{50} \longrightarrow \boxed{20} \times \boxed{50}$$

$$\boxed{40} \times 8 \longrightarrow \boxed{320} \div 40$$

10a. **30**

11a. **If $3 \times 60 = 180$ and $6 \times 30 = 180$, then 180 divided by $60 = 3$.**

12a.

$$3 \times \boxed{8} = 24, \quad 3 \times 80 = \boxed{240}$$

$$\boxed{4} \times 8 = 32, \quad 320 \div \boxed{80} = \boxed{4}$$

Varied Fluency Related Calculations

Developing

1b. **A3; B1; C2**

2b. **$3 \times 8 = 24$**

3b. **False, $90 \div 30 = 3$**

4b.

40	x	5	=	200
4	x	50	=	200
200	÷	5	=	40
200	÷	4	=	50

Expected

5b. **A2; B3; C1**

6b. **$4 \times 7 = 28$**

7b. **False, $120 \div 40 = 3$**

8b.

30	x	5	=	150
50	x	3	=	150
150	÷	3	=	50
150	÷	30	=	5

Greater Depth

9b. **Various answers, for example:**

$$\boxed{60} \times 8 \longrightarrow 6 \times \boxed{80}$$

$$3 \times 50 \longrightarrow \boxed{150} \div \boxed{3}$$

$$800 \div \boxed{40} \longrightarrow \boxed{40} \times \boxed{20}$$

10b. **20**

11b. **Various answers, for example: If $5 \times 20 = 100$ and $2 \times 50 = 100$, then $1,000$ divided by $50 = 20$.**

12b.

$$6 \times \boxed{4} = 24, \quad 40 \times 6 = \boxed{240}$$

$$\boxed{8} \times 8 = 64, \quad 80 \times \boxed{8} = \boxed{640}$$