Reasoning and Problem Solving
Step 7: The 4 Times Table

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 Explain whether a statement about commutativity is correct, using knowledge of the 4 times table up to 12 x 4. Pictorial support is provided.
Expected Explain whether a statement about doubling or halving a 4 times table fact is correct, using knowledge of the 4 times table up to 12 x 4. Scaffolding is provided in the form of images to support the statement.
Greater Depth Explain whether a statement about the 4 times table is correct, using knowledge of the 4 times table up to 12 x 4. Words and numerals are used, and no scaffolding is provided.

Questions 2, 5 and 8 (Problem Solving)
Developing Find related facts for a given calculation, using knowledge of the 4 times table up to 12 x 4. Pictorial support is provided, as is scaffolding for the facts.
Expected Find related facts for a given calculation, using knowledge of the 4 times table up to 12 x 4. Scaffolding is provided in the form of a bar model.
Greater Depth Find related facts for a given calculation, using knowledge of the 4 times table up to 12 x 4. Words and numerals are used, and no scaffolding is provided.

Questions 3, 6 and 9 (Problem Solving)
Developing Find combinations to meet a given brief, using knowledge of the 4 times table up to 12 x 4. Upper and lower boundaries are multiples of 4. Pictorial support is provided.
Expected Find combinations to meet a given brief, using knowledge of the 4 times table up to 12 x 4. Upper and lower boundaries are multiples of 4.
Greater Depth Find combinations to meet a given brief, using knowledge of the 4 times table up to 12 x 4. Upper and lower boundaries are not multiples of 4 and an extra criteria is imposed. No scaffolding provided.

More Year 3 Multiplication and Division resources.

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

The 4 Times Table

1a. Rueben says,

Rueben

I have 2 rows of 4 stickers and my friend has 4 rows of 2 stickers so we both have 8 stickers each.

Is he correct? Explain why.

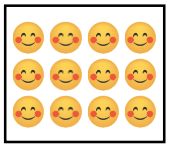
D

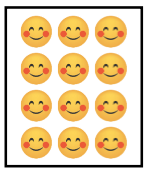
R

1b. Evan says,

Evan

I have 3 rows of 4 stickers and my friend has 4 rows of 3 stickers so we have 42 stickers in total.





Is he correct? Explain why.

D

R

2a. Elodie says,

Elodie

I know 9 x 4 = 36 so I can tell you other related facts.

What other facts might Elodie know?
List three other facts.

4 x ☐ = ☐☐ ☐☐ ÷ ☐ = 4

☐☐ ÷ 4 = ☐

D

PS

2b. Katie says,

Katie

I know 7 x 4 = 28 so I can tell you other related facts.

What other facts might Katie know?
List three other facts.

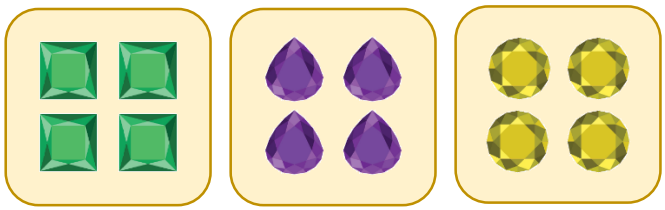
4 x ☐ = ☐☐ ☐☐ ÷ ☐ = 4

☐☐ ÷ 4 = ☐

D

PS

3a. Di buys some jewels with her pocket money. They are 4p for a set of 4. She spends more than 28p but less than 40p.



4p 4p 4p

Find three possible combinations of the sets that she could have bought.

D

PS

3b. Troy buys some jewels with his pocket money. They are 4p for a set of 4. He spends more than 20p but less than 36p.

4p 4p 4p

Find three possible combinations of the sets that he could have bought.

D

PS

The 4 Times Table

4a. Kelsey says,

Kelsey

If 6 dogs have 24 legs, then 12 dogs have 44 legs.

Is she correct? Explain why.

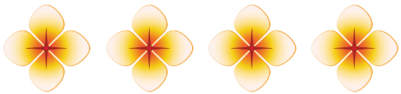
E R

The 4 Times Table

4b. Antonia says,

Antonia

If 4 flowers have 16 petals, then 2 flowers have 8 petals.



Is she correct? Explain why.

E R

5a. Dean says,

Dean

I know 7 x 4 = 28 so I can tell you other related facts.

28						
4	4	4	4	4	4	4

What other facts might Dean know?
List three other facts.

E PS

5b. Frank says,

Frank

I know 8 x 4 = 32 so I can tell you other related facts.

32							
4	4	4	4	4	4	4	4

What other facts might Frank know?
List three other facts.

E PS

6a. Joe buys some sweets with his pocket money. He spends more than 20p but less than 44p. He buys at least 1 of each.

Dream Swirl	Twist Pop	Dotty Delight
		
4p	4p	4p

Find three possible combinations of the sweets that he could have bought.

E PS

6b. Tia buys some sweets with her pocket money. She spends more than 12p but less than 40p. She buys at least 1 of each.

Choc Fudge	Chew Chew	Caramel Drop
		
4p	4p	4p

Find three possible combinations of the sweets that she could have bought.

E PS

7a. Marcia says,

Marcia

All multiples of four are even.

Is she correct? Explain why.

GD R

8a. Dermot says,

Dermot

I know twelve multiplied by four equals 48 so I can tell you other related facts.

What other facts might Dermot know? List three other facts.

GD PS

9a. Alexander buys some balls, costing four pounds each, with his pocket money. He buys an odd number of two of the balls and he spends between £15 and £45. He buys at least one of each.

A. 

B. 

C.

Find three possible combinations of the balls that he could have bought.

GD PS

7b. Holly says,

Holly

The digit sum of each multiple of 4 is even.

Is she correct? Explain why.

GD R

8b. Michael says,

Michael

I know that 4 x 8 equals thirty-two so I can tell you other related facts.

What other facts might Michael know? List three other facts.

GD PS

9b. Hannah buys some balls, costing four pounds each, with her pocket money. She buys an even number of two of the balls and she spends between £10 and £42. She buys at least one of each.

A. 

B. 

C. 

Find three possible combinations of the balls that she could have bought.

GD PS

Reasoning and Problem Solving
The 4 Times Table

Developing

1a. Rueben is correct: 2 x 4 = 8 and 4 x 2 = 8.

2a. 4 x 9 = 36; 36 ÷ 9 = 4; 36 ÷ 4 = 9

3a. Various possible answers, for example: 2 x green sets (8p), 3 x purple sets (12p) and 4 x yellow sets (16p) = 36p

Expected

4a. Kelsey is incorrect: 6 x 4 is 24 and 12 is double 6, so 12 x 4 = 48, not 44.

5a. 4 x 7 = 28; 28 ÷ 7 = 4; 28 ÷ 4 = 7

6a. Various possible answers, for example: 3 x Dream Swirl (12p), 5 x Twist Pop (20p) and 2 x Dotty Delight (8p) = 40p

Greater Depth

7a. Marcia is correct: all multiples of 4 are also multiples of 2 so must be even.

8a. 4 x 12 = 48; 48 ÷ 12 = 4; 48 ÷ 4 = 12

9a. Various possible answers, for example: 4 x Ball A (£16), 1 x Ball B (£4) and 5 x Ball C (£20) = £40

Reasoning and Problem Solving
The 4 Times Table

Developing

1b. Evan is incorrect: 3 x 4 = 12 and 4 x 3 = 12 so there will be 24 stickers in total, not 42.

2b. 4 x 7 = 28; 28 ÷ 7 = 4; 28 ÷ 4 = 7

3b. Various possible answers, for example: 3 x blue sets (12p), 1 x red sets (4p) and 2 x yellow sets (8p) = 24p

Expected

4b. Antonia is correct: 4 x 4 = 16 and 2 is half of 4, so 2 x 4 = 8.

5b. 4 x 8 = 32; 32 ÷ 8 = 4; 32 ÷ 4 = 8

6b. Various possible answers, for example: 1 x Choc Fudge (4p), 6 x Chew Chew (24p) and 2 x Caramel Drop (8p) = 36p

Greater Depth

7b. Holly is incorrect: the digit sum for some of them is odd, for example: the digit sum of 12 is 1 + 2 = 3, which is odd.

8b. 8 x 4 = 32; 32 ÷ 8 = 4; 32 ÷ 4 = 8

9b. Various possible answers, for example: 2 x Ball A (£8), 4 x Ball B (£16) and 3 x Ball C (£12) = £36