C-W 10-11-26

Exercise 5.2

1 Which multiplication from the multiplication table for 4 is represented in the diagram? Remember to count the number of sides on each square.



4 × 6 = 24

2 What are the next five multiples of 4? Describe the numbers you have written using the words multiple, odd and even.

4, 8, 12, 16, 20, 24, 28, 32, 36, 40

All multiples are even.

Worked example

Write the missing multiplication facts.

2 x 6 = 12	double →	4x6=24
2x9=18	← halve	4 x 9 = 36

All multiplications tables facts are group size x how many groups = product.

When you change the group size, you must change the product in the same way.

Double the 2x table fact to find the 4x table fact, because double 2 = 4.

2 x 6 = 12, double → 4 x 6 = 24.

Halve the 4x table fact to find the 2x table fact, because half of 4 = 2.

2 x 9 = 18 ← halve 4 x 9 = 36.

2 x 6 = 12	double →	4 x 6 = 24
2 x 9 = 18	← halve	4 x 9 = 36

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3 Write the missing multiplication facts.

2 × 7 = 14	double →	4 × 7 = 28
2 × 3 = 6	double →	4 × 3 = 12
2 × 5 = 10	← halve	4 × 5 = 20
2 × 4 = 8	← halve	4 × 4 = 16

4 Which multiplication fact is represented in the diagram?



5 × 8 = 40

Tip

Count the number of legs on each spider.

5 Colour all the multiples of 8.

71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

Describe the numbers you have coloured using the words **multiple**, **odd** and **even**.

All the multiples are even.

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6 Write the missing multiplication facts.

2 × 9 = 18	double →	4×9=36	double →	8×9=72
2×5=10	double →	4×5=20	double →	8 × 5 = 40
2×6=12	← halve	4 × 6 = 24	← halve	8×6=48
2 × 3 = 6	← halve	4×3=12	← halve	8×3=24

Tip

Remember to change the group size and the product in the same way to find the new multiplication table fact. The number of groups does not change.

If you sorted the multiples of 4 and the multiples of 8 on to a Venn diagram, which part of the diagram would be empty? Why?

7 The term-to-term rule is add 4.

Start at 5. What are the next five numbers in the sequence?

5, 9, 13, 17, 21, 25.

Describe the numbers you have written using the words multiple, odd and even.

All the numbers are odd.

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8 What is the term-to-term rule in this sequence?
What are the missing numbers?

3, 11, 19, 27, 35, 43

Describe the numbers you have written using the words **multiple**, **odd** and **even**.

All the multiples are odd.

The term-to-term rule is add 8.

9 Two of the five numbers in Jamal's sequence are 13 and 29.
What could the other numbers in his sequence be?
What could his term-to-term rule be?

Find another solution.

Think like a mathematician



Zara conjectures that if the term-to-term rule is an even number, then the terms will all be even if the start number is even.

Is Zara's conjecture correct? How do you know?

Share your investigation with a friend. Do you agree?

Look what I can do!

- ☐ I can work out and use the multiplication tables for 4 and 8.
- ☐ I can connect the multiplication tables for 2, 4 and 8 by doubling.
- ☐ I can count in fours or eights from any start number.

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C.W 16-11-2026

5.3 Connecting 3 ×, 6 × and 9 ×

We are going to ...

- build the multiplication tables for 3, 6 and 9
- connect the multiplication tables for 3, 6 and 9
- count in threes, sixes or nines from any start number.

When you know one multiplication table, you can use it to find other multiplication tables by doubling, adding or subtracting. You can use the patterns of the multiples to help you count on or count back from any number. Describing the patterns of the numbers using words, such as odd and even helps you to notice and correct any mistakes.

counting stick

Exercise 5.3

1 Write the multiples of 3 and 6.

	1	2	3	4	5	6	7	8	9	10
3 ×	3	6	9	12	15	18	21	24	27	30
6 ×	6	12	18	24	30	36	42	48	54	60

2 Which multiplication facts from the multiplication tables for 3 and 6 have the same value? The first one is done for you.

$3 \times 2 = 6 \times 1$

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3 Write the missing multiplication facts.

3 × 5 = 15	double →	6 × 5 = 30
3 × 7 = 21	double →	6 × 7 = 42
3 × 8 = 24	← halve	6 × 8 = 48
3 × 9 = 27	← halve	6 × 9 = 54

Tip

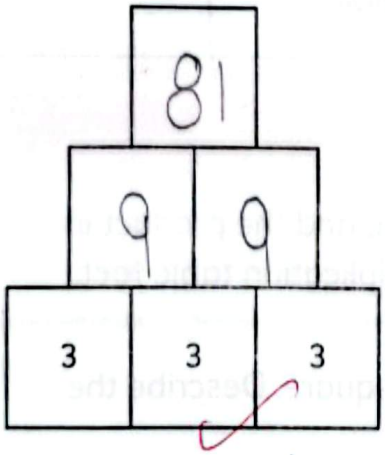
Remember to change the group size and the product in the same way to find the new multiplication table fact.

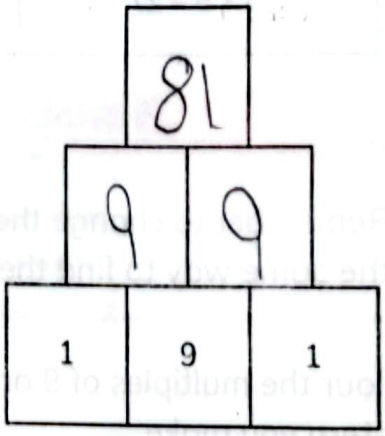
4 Colour the multiples of 9 on this 100 square. Describe the pattern you make.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

5 Doubling the multiplication table for 6 does not give the multiplication table for 9. What could you do instead? Give an example.

6 Multiply the numbers in the bricks next to each other to find the number for the brick above.





Where have you seen walls like this before? What were they used for?

7 a The term-to-term rule is add 9. Choose a start number and write the first five numbers in your sequence.

9, 18, 27, 36, 45,

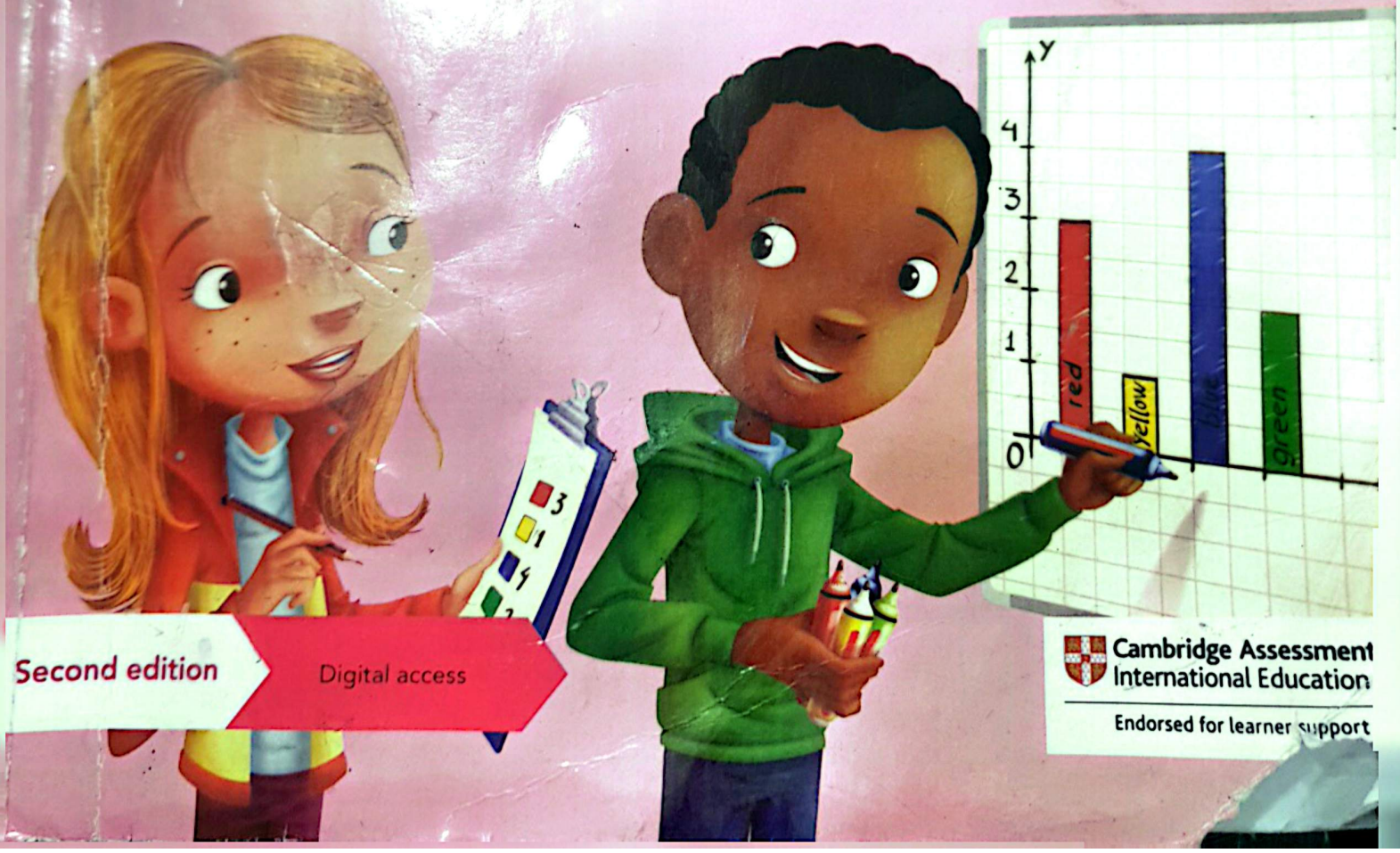
b When the start number is the same as the term-to-term rule, how can you describe the numbers in the sequence? For example, start at 9, term-to-term rule is add 9.

CAMBRIDGE
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CAMBRIDGE Primary Mathematics

Workbook 3

Cherri Moseley & Janet Rees



Second edition

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Cambridge Assessment International Education

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5.2 Connecting 2 ×, 4 × and 8 ×

Exercise 5.2

Focus

1 Which multiplication fact is represented below?

four four four

3 × 4 = 12

Tip

How many fours can you see?

2 Write the multiplication table for 4, up to 4 × 10 = 40.

4 × 1 = 4 4 × 6 = 24
4 × 2 = 8 4 × 7 = 28
4 × 3 = 12 4 × 8 = 32
4 × 4 = 16 4 × 9 = 36
4 × 5 = 20 4 × 10 = 40

3 Colour all the multiples of 8.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

4 There are six spiders on a plant. Write and solve the multiplication fact to find out how many spiders' legs are on the plant.



6 × 8 = 48

Worked example 2

The term-to-term rule is 'add 4'.

Start at 2. What are the next five numbers in the sequence?

2, 7, 11, 15, ☐, ☐

2, 6, ☐, ☐, ☐, ☐

The term-to-term rule tells me what t
to find the next number in the sequen

2 + 4 = 6

Now I can add 4 to that number to fi
the next number and keep going to fi
the rest of the sequence.

6 + 4 = 10

10 + 4 = 14

14 + 4 = 18

18 + 4 = 22.

All the answers are even numbers bec
they have 0, 2, 4, 6 or 8 in the ones pla

Answer: 2, 6, 10, 14, 18, 22

5 The term-to-term rule is 'add 4'.

Start at 3. What are the next five numbers in the sequence?

3, 7, 11, 15, 19, 23

Describe the numbers you have written using words such as odd and even.

All the numbers are odd

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C.W 11.11.26

Practice

6 What is the third multiple of 4? 12

What is the 7th multiple of 4? 28

7 What are the next five multiples of 4?

40, 44, 48, 52, 56, 60

8 Describe the pattern of the multiples of 4.

Start with 4 and keep adding 4 to get the next multiple.

9 What is the fifth multiple of 8? 40

What is the 9th multiple of 8? 72

10 Write the missing multiplication facts.

2 × 4 = 8	double →	4 × 4 = 16	double →	8 × 4 = 32
2 × 2 = 4	double →	4 × 2 = 8	double →	8 × 2 = 16
2 × 8 = 16	← halve	4 × 8 = 32	← halve	8 × 8 = 64
2 × 7 = 14	← halve	4 × 7 = 28	← halve	8 × 7 = 56

Tip

Remember to change the group size and the product in the same way to find the new multiplication table fact. The number of groups doesn't change.

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C.W 16-11-26

11 What is the term-to-term rule in the sequence below?
Find the missing numbers.

7, 15, 23, 31, 39, 47

The term-to-term rule is add 8

Describe the numbers you have written using words such as odd and even.

odd numbers.

Challenge

12 Complete the multiplication grid.

×	2	4	8
3	6	12	24
5	10	20	40
6	12	24	48
9	18	36	72

13 A pear costs 8c.
Write the multiplication fact that tells you the cost of seven pears.



8x7 = 56c

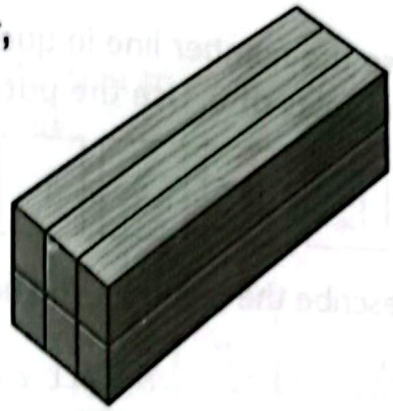
14 A white T-shirt costs $4.
Write the multiplication fact that tells you the cost of 8 T-shirts.



4x8 = $32

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15 Tara's father bought six pieces of timber, each measuring 4 metres long. What is the total length of timber that Tara's father bought?



6 × 4 = 24m ✓

16 Choose a term-to-term rule, a start number and how many terms to record. Write your sequence.

term to term rule: add 6

6, 12, 18, 24, 30. ✓

+6 | 11

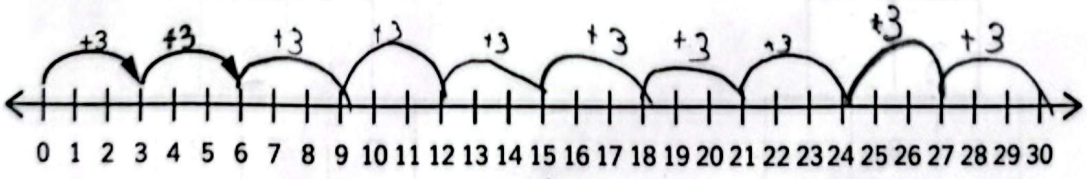
5.3 Connecting 3 ×, 6 × and 9 ×

Exercise 5.3

counting stick

Focus

1 Use the number line to help you find the multiples of 3.



3, 6, 9, 12, 15, 18, 21, 24, 27, 30

Describe the numbers you have written using words such as odd and even.

Some of the numbers are odd and some are even ✓

c.w 18.11.26

2 Use the number line in question 1 to help you find the multiples of 6. Use the pattern to help you continue to 60.

6, 12, 18, 24, 30, 36, 42, 48, 54, 60

Describe the numbers you have written using words such as odd and e

All the numbers are even.

3 Write the missing multiplication facts.

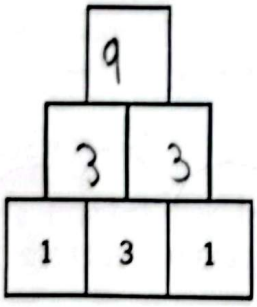
3 × 2 = 6	double →	6 × 2 = 12
3 × 6 = 18	double →	6 × 6 = 36
3 × 4 = 12	← halve	6 × 4 = 24
3 × 1 = 3	← halve	6 × 1 = 6

Tip

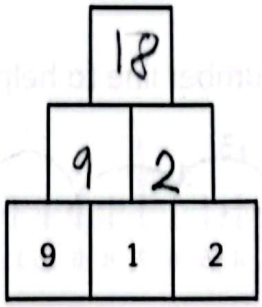
Remember to chang the group size and the product in the same way to find th new multiplication table fact. The number of groups doesn't change.

4 Multiply together the numbers in the bricks next to each other to find the number for the brick above.

a



b



5 The term-to-term rule is add 9.

Start at 8 and write the next five numbers in your sequence.

8, 17, 26, 35, 44, 53

Describe the numbers you have written using words such as odd and ev

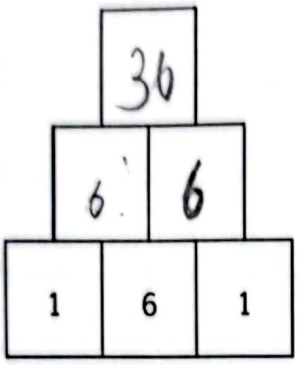
some of the numbers are odd and some are even

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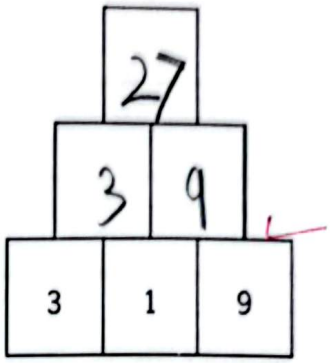
Practice

6 Multiply together the numbers in the bricks next to each other to find the number for the brick above.

a



b

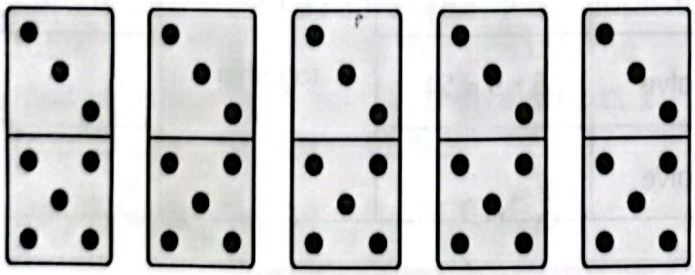


7 Ruby the red kangaroo jumps 9 metres in each jump. How far does she travel with seven jumps? Write the multiplication fact that helps you to find out.



9 x 7 = 63 m

8



8 × 5 = 5 × 5 + 3 × 5 = 25 + 15 = 40

Draw a picture on the next page to show how you can add the multiplication tables for 5 and 4 together to find 9 × 6.

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9 Write the missing multiplication facts.

3 × 3 = 9	double →	6 × 3 = 18	+ 3× and 6× together →	9 × 3 = 27
3 × 10 = 30	double →	6 × 10 = 60		9 × 10 = 90
3 × 9 = 27	← halve	6 × 9 = 54		9 × 9 = 81
3 × 0 = 0	← halve	6 × 0 = 0		9 × 0 = 0

(19/4)

Tip

Add groups of 3 and groups of 6 together to get groups of 9.

$$\begin{array}{r} 3 \times 3 = 9 \\ +\ 6 \times 3 = 18 \\ \hline 9 \times 3 = 27 \end{array}$$

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