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

Worked example

Write the missing multiplication facts.

2 x 6 = 12	double →	
	← 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?



8 × 5 = 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.

Multiples of 8 are even.

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6 Write the missing multiplication facts.

2 × 9 = 18	double →	4x9=36	double →	8x9=72
2x5=10	double →	4x5=20	double →	8 × 5 = 40
2x6=12	← halve	4 × 6 = 24	← halve	8x6=48
2 × 3 = 6	← halve	4x3=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 numbers are odd.

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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 × 2 = 6 × 1

3 × 4 = 6 × 2

3 × 6 = 6 × 3

3 × 8 = 6 × 4

3 × 10 = 6 × 5

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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.

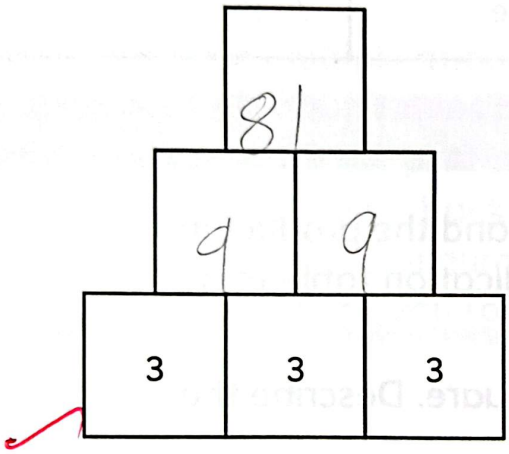
4 Colour the multiples of 9 on this 100 square. Describe the pattern you make.

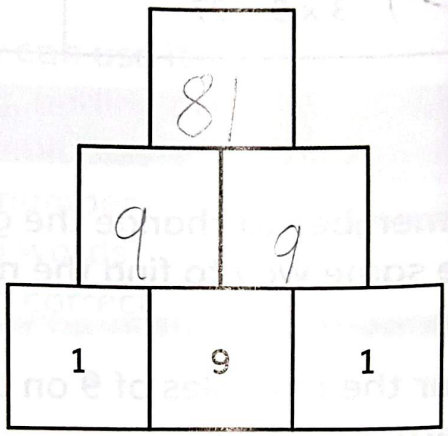
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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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.

Multiples of 9.

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