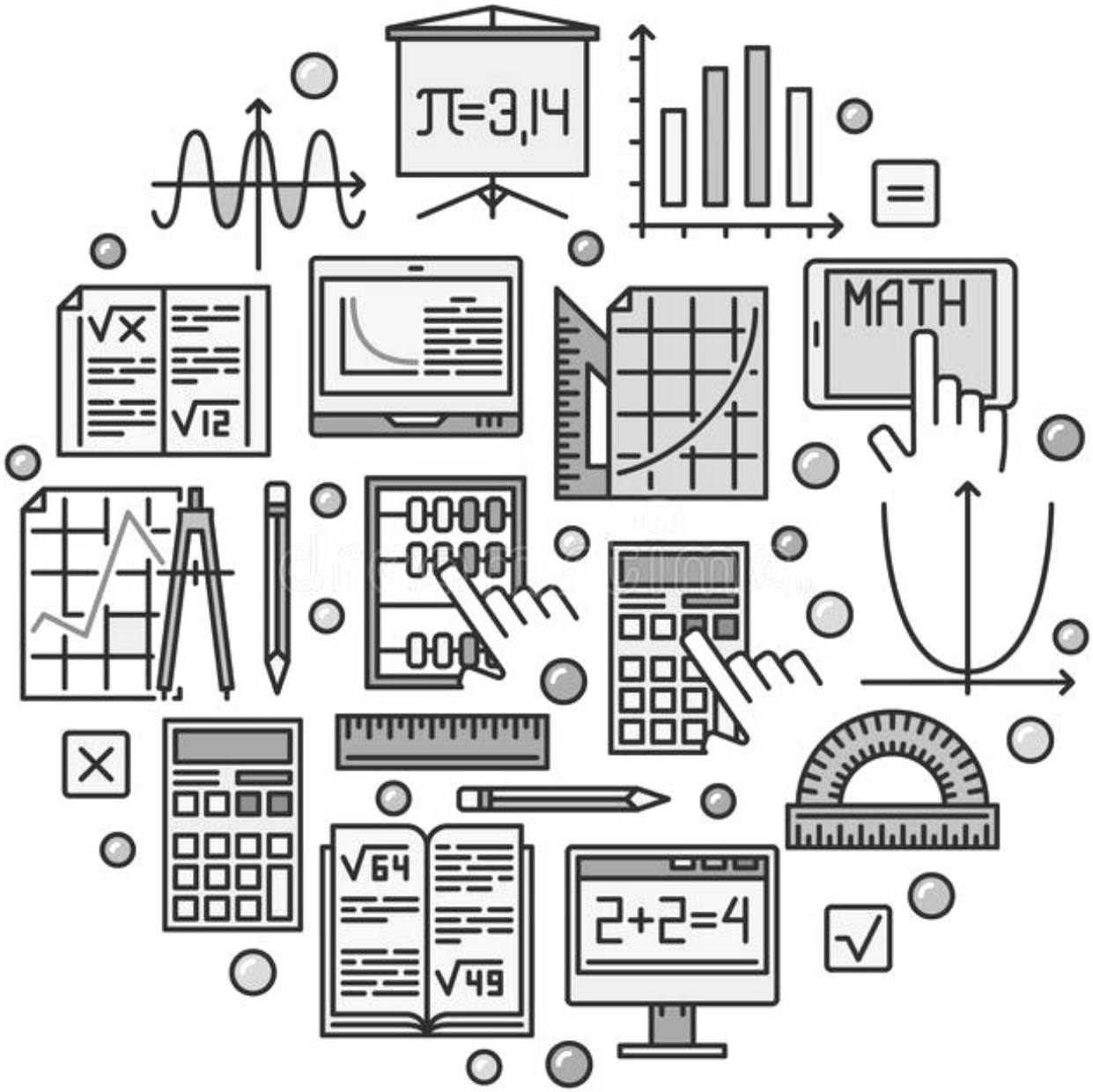
Math Booklet 1



Introducing multiplication – groups of 5

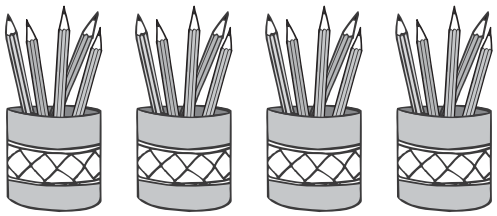
Use repeated addition to find the total number of fingers.

5 + 5 + 5 = 15

3 groups of 5 is equal to 15.

1 **Find the total of each group by using repeated addition.**

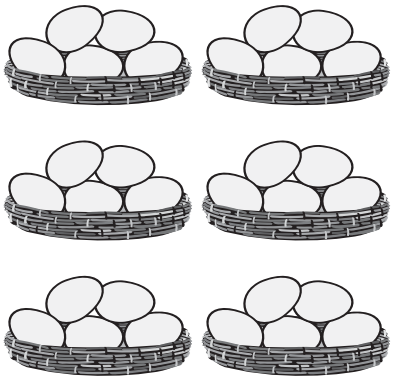
a How many pencils?



☐ + ☐ + ☐ + ☐ = ☐

☐ groups of ☐ is equal to ☐

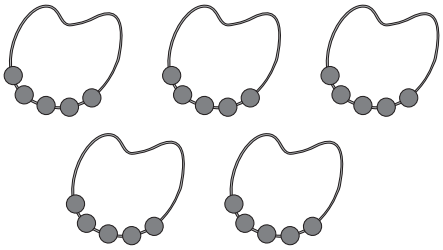
b How many eggs?



☐ + ☐ + ☐ + ☐ + ☐ + ☐ = ☐

☐ groups of ☐ is equal to ☐

c How many beads?



☐ + ☐ + ☐ + ☐ + ☐ = ☐

☐ groups of ☐ is equal to ☐

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Introducing multiplication – groups of 5

This is a multiplication symbol × and it means 'groups of'.

So instead of repeated addition, we can use a multiplication symbol.

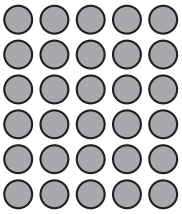
5 + 5 + 5 + 5 + 5 = 25 5 × 5 = 25

2 **Find the total of each group by using repeated addition:**

a

☐ groups of ☐ is equal to ☐

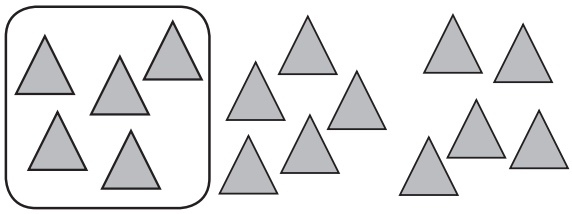
☐ × ☐ = ☐

b 

☐ rows of ☐ is equal to ☐

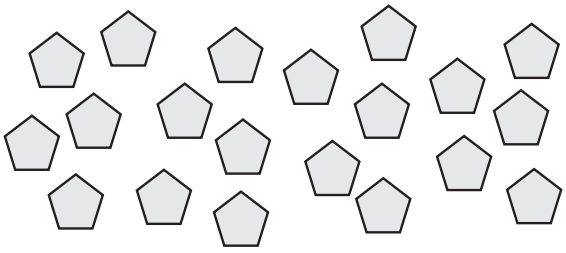
☐ × ☐ = ☐

3 **Circle the shapes in groups of 5. One group is circled for you. Then complete the multiplication fact.**

a 

☐ groups of ☐ is equal to ☐

☐ × 5 = ☐

b 

☐ groups of ☐ is equal to ☐

☐ × 5 = ☐

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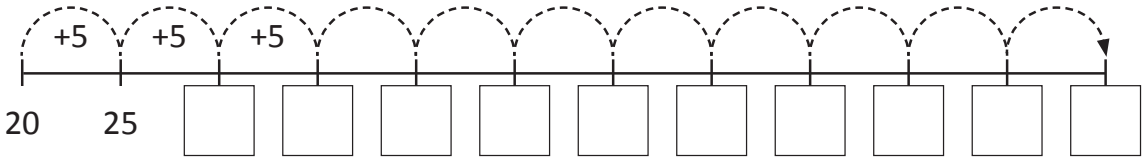
Introducing multiplication – 5 times table

Here is a skip counting pattern on a hundred grid. It shows a counting pattern of 5.

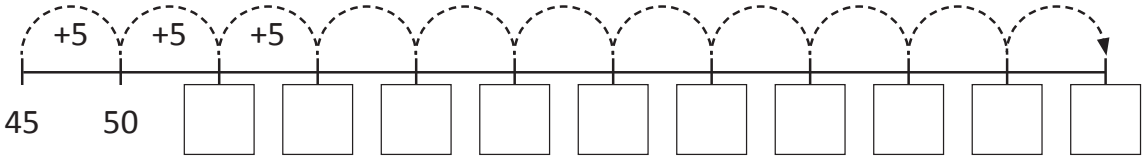
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

1 **Finish each pattern by counting in 5s:**

a

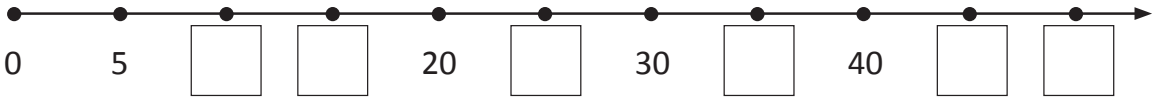


b



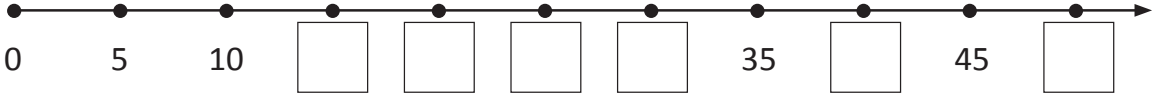
2 **Show × 5 multiplication facts on each number line.**

a Finish labelling this number line and then show 5 jumps starting from 0:



This is the same as ☐ × 5 = ☐

b Finish labelling this number line and then show 7 jumps starting from 0:



This is the same as ☐ × 5 = ☐

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Introducing multiplication – 5 times table

3 **Write a 5 times table fact for each set of 5 cent coins. The first one has been done for you.**

a

4 × 5¢ = 20¢

b

□ × □ = □

c

□ × □ = □

4 **Times tables are a set of multiplication facts from 1 to 10 based on multiplying by the same number each time. Write the answers for the 5 times table.**

1 × 5 = □

2 × 5 = □

3 × 5 = □

4 × 5 = □

5 × 5 = □

6 × 5 = □

7 × 5 = □

8 × 5 = □

9 × 5 = □

10 × 5 = □

5 **Now answer the mixed up 5 times table.**

a 2 × 5 = □

b 8 × 5 = □

c 9 × 5 = □

d 10 × 5 = □

e 3 × 5 = □

f 6 × 5 = □

g 7 × 5 = □

h 5 × 5 = □

i 1 × 5 = □

j 4 × 5 = □

6 **Write the missing number in each 5 times table fact.**

a □ × 5 = 35

b □ × 5 = 20

c □ × 5 = 50

d □ × 5 = 15

e □ × 5 = 40

f □ × 5 = 10

g □ × 5 = 30

h □ × 5 = 45

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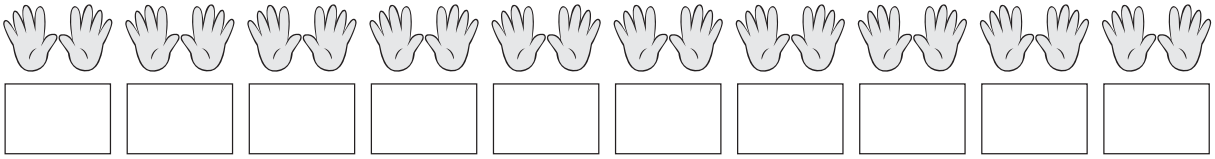
Introducing multiplication – 10 times table

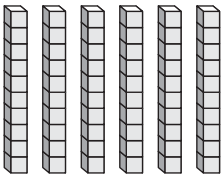
If you can skip count in 10s, you know your 10 times table.

1 **Complete this sequence by counting in 10s:**



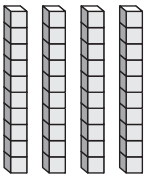
2 **Count the rods and then complete the multiplication fact:**

a



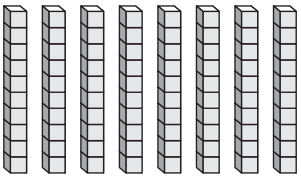
☐ × 10 = ☐

b



☐ × 10 = ☐

c



☐ × 10 = ☐

3 **Complete the 10 times table:**

1 × 10 = ☐

2 × 10 = ☐

3 × 10 = ☐

4 × 10 = ☐

5 × 10 = ☐

6 × 10 = ☐

7 × 10 = ☐

8 × 10 = ☐

9 × 10 = ☐

10 × 10 = ☐

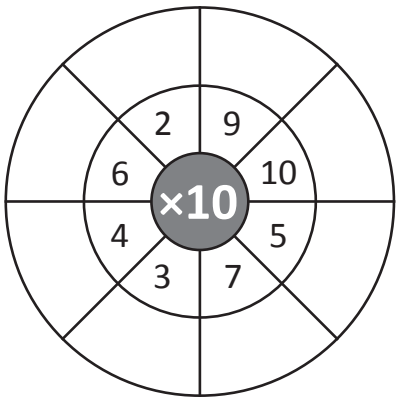
4 **Write the missing number in each 10 times table fact:**

a ☐ × 10 = 50

b ☐ × 10 = 80

c ☐ × 10 = 70

5 **Complete this × 10 wheel:**



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Introducing multiplication – multiplying any number by 10

When we multiply any number by 10, a zero goes in the ones column and the digits all move one space along to the left.

Hundreds	Tens	Ones
		2
	2	0

$2 \times 10 = 20$

1 **Show how the digits all move along when they are multiplied by 10 and write the answers below:**

a

Hundreds	Tens	Ones
		7
	7	0

$7 \times 10 =$ ☐

b

Hundreds	Tens	Ones
		3

$3 \times 10 =$ ☐

c

Hundreds	Tens	Ones
	1	5

$15 \times 10 =$ ☐

d

Hundreds	Tens	Ones
	2	2

$22 \times 10 =$ ☐

2 **Connect these × 10 facts to the answers:**

16 × 10	62 × 10	93 × 10	99 × 10	13 × 10

220	510	930	990	850	160	130	620	720	980

72 × 10	51 × 10	85 × 10	22 × 10	98 × 10

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Introducing multiplication – multiplying numbers by 0 and 1

Any number multiplied by 1 always equals the same number.

Any number multiplied by 0 always equals zero.

1 **Practise multiplying by 1:**

a

8 groups of 1 are equal to ☐

☐ × 1 = ☐

b

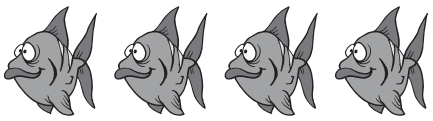
6 groups of 1 are equal to ☐

☐ × 1 = ☐

c

5 groups of 1 are equal to ☐

☐ × 1 = ☐

d 

4 groups of 1 are equal to ☐

☐ × 1 = ☐

2 **Practise multiplying by 1 and 0:**

a 12 × 0 = ☐ **b** 6 × 1 = ☐ **c** 3 × 0 = ☐

d 2 × 1 = ☐ **e** 8 × 0 = ☐ **f** 20 × 1 = ☐

3 **Complete this grid:**

×	9	10	6	1	5	4	7	3	8	2
0										
1										

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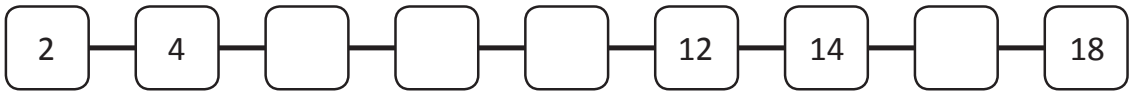
Multiplication facts – 2 times table

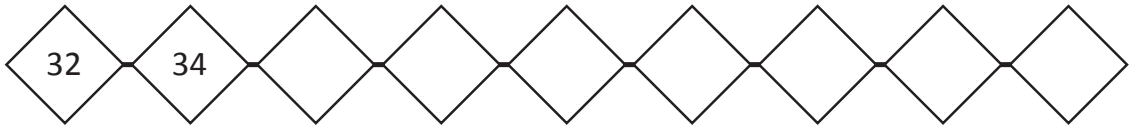
Counting in 2s will help you know many times table facts.

1 **Complete each pattern by counting in 2s:**

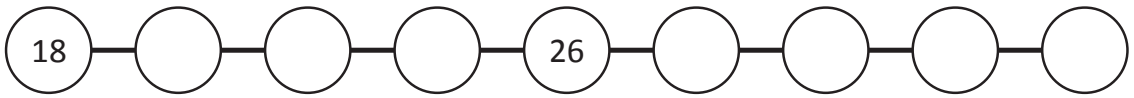
a



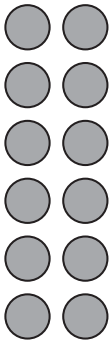
b



c

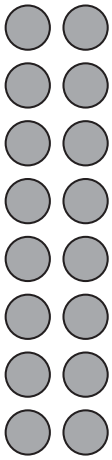


2 **Show how many dots there are in each array by counting in 2s. Then write the times table fact below:**



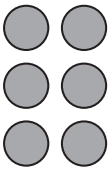
a 6 twos

□ × 2 = □



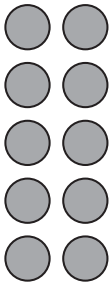
b 8 twos

□ × 2 = □



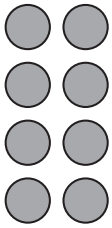
c 3 twos

□ × 2 = □



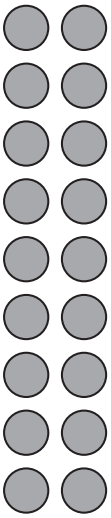
d 5 twos

□ × 2 = □



e 4 twos

□ × 2 = □



f 9 twos

□ × 2 = □

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Multiplication facts – 2 times table

3 **How many wings are in:**

a 3 butterflies?

☐ × 2 = ☐

b 10 butterflies?

☐ × 2 = ☐

c 5 butterflies?

☐ × 2 = ☐

d 2 butterflies?

☐ × 2 = ☐

4 **How many wheels have:**

a 4 bikes?

☐ × 2 = ☐

b 9 bikes?

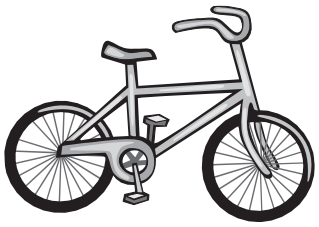
☐ × 2 = ☐

c 7 bikes?

☐ × 2 = ☐

d 3 bikes?

☐ × 2 = ☐



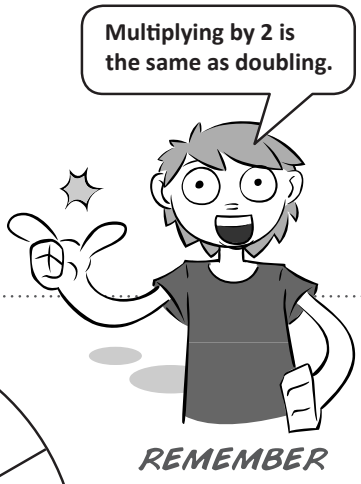
5 **Double each number:**

a 6 × 2 = ☐

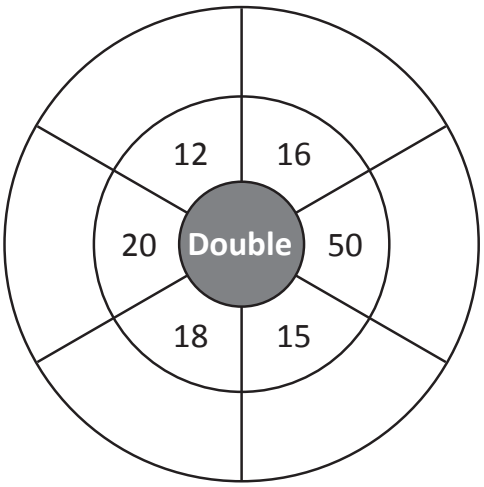
b 9 × 2 = ☐

c 8 × 2 = ☐

d 7 × 2 = ☐



6 **Complete this doubling wheel. These facts are not in the 2 times table, but they are facts that are useful to know.**



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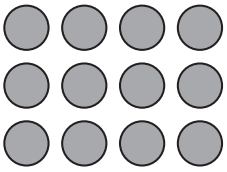
Multiplication facts – 4 times table

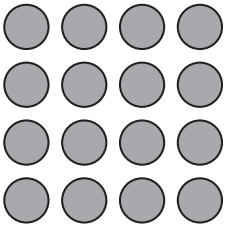
Practise your 4 times table.

1 **Write the multiplication fact for each array:**



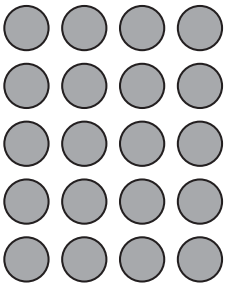
a 3 fours

□ × 4 = □



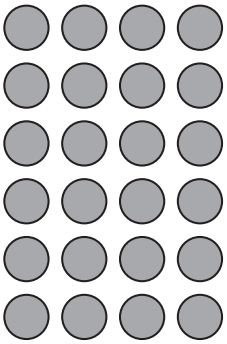
b 4 fours

□ × 4 = □



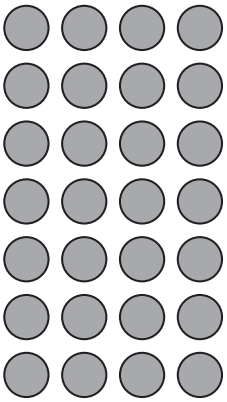
c 5 fours

□ × 4 = □



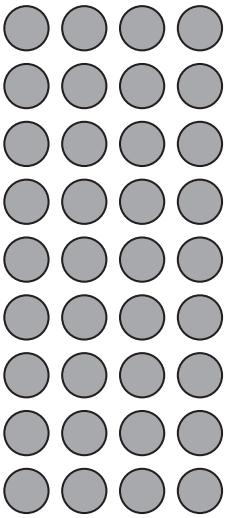
d 6 fours

□ × 4 = □



e 7 fours

□ × 4 = □



f 9 fours

□ × 4 = □

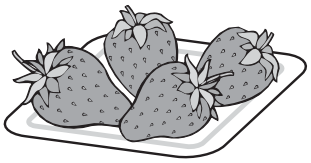
2 **How many strawberries are there on:**

a 4 plates?

□ × 4 = □

b 3 plates?

□ × 4 = □



c 7 plates?

□ × 4 = □

d 9 plates?

□ × 4 = □

e 2 plates?

□ × 4 = □

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Multiplication facts – 4 times table

3 **Here is a half of a hundred chart:**

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

a Circle the counting pattern of 2s. Cross the counting pattern of 4s.

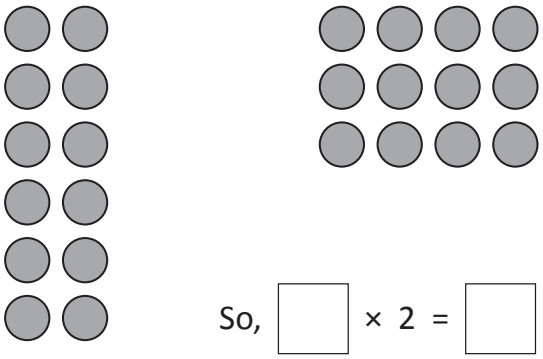
b What do you notice?

_____

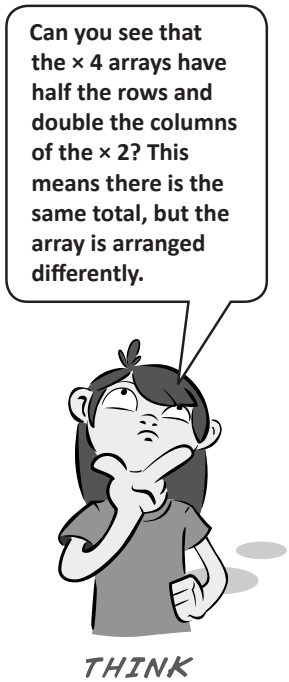
_____

4 **Complete the matching × 2 and × 4 facts:**

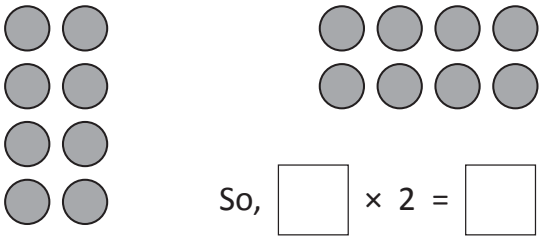
a 6 × 2 = 12 and 3 × 4 = 12



So, ☐ × 2 = ☐ × 4



b ☐ × 2 = ☐ and ☐ × 4 = ☐



So, ☐ × 2 = ☐ × 4

c 8 × 2 = ☐ × 4

d 10 × 2 = ☐ × 4

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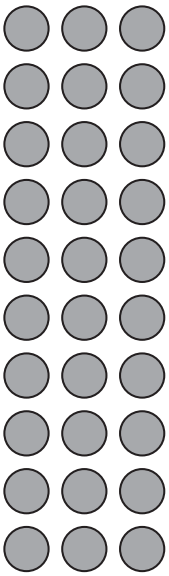
Multiplication facts – 3 times table

Practise your 3 times table.

1 **Use this array to complete the 3 times table:**



1 × 3 = ☐

2 × 3 = ☐

3 × 3 = ☐

4 × 3 = ☐

5 × 3 = ☐

6 × 3 = ☐

7 × 3 = ☐

8 × 3 = ☐

9 × 3 = ☐

10 × 3 = ☐

2 **Now try them mixed up:**

a 3 × 3 = ☐

b 8 × 3 = ☐

c 7 × 3 = ☐

d 10 × 3 = ☐

e 2 × 3 = ☐

f 4 × 3 = ☐

g 5 × 3 = ☐

h 6 × 3 = ☐

i 9 × 3 = ☐

j 1 × 3 = ☐

3 **Alfred is an alien from the Planet Trampolon. The surface of Planet Trampolon is like walking on a trampoline. That's why Alfred and all his race of aliens need 3 legs for extra balance. They also have 3 fingers on each hand and 3 eyes.**

a How many legs for:

6 aliens?

6 × ☐ = ☐

4 aliens?

4 × ☐ = ☐

b How many eyes for:

3 aliens?

☐ × ☐ = ☐

10 aliens?

☐ × ☐ = ☐

c How many fingers on one hand for:

9 aliens?

☐ × ☐ = ☐

5 aliens?

☐ × ☐ = ☐

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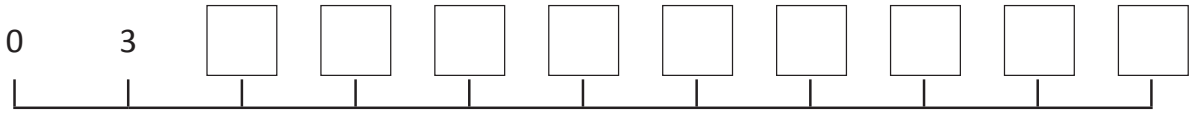
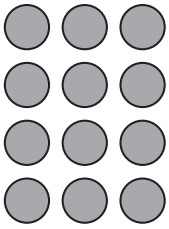
Multiplication facts – 3 times table

4 **Label the number line so it goes up in 3s:**

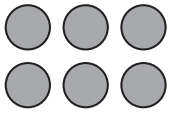


5 **Write two turnaround facts for each array. The first one has been done for you.**



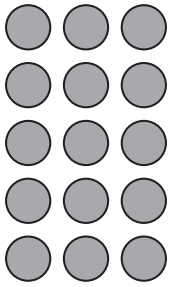
a 4 × 3 = 12

3 × 4 = 12



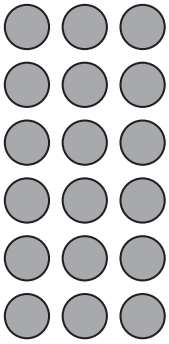
b ☐ × ☐ = ☐

☐ × ☐ = ☐



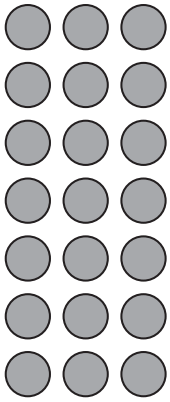
c ☐ × ☐ = ☐

☐ × ☐ = ☐



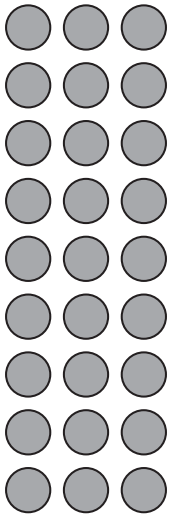
d ☐ × ☐ = ☐

☐ × ☐ = ☐



e ☐ × ☐ = ☐

☐ × ☐ = ☐



f ☐ × ☐ = ☐

☐ × ☐ = ☐

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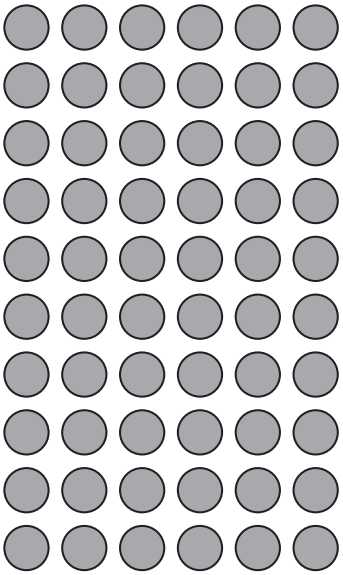
Multiplication facts – 6 times table

Practise your 6 times table. Did you know that we can use × 6 for short?
So × 6 just means 6 times table, just as × 3 means 3 times table.

1 **Use this array to complete the 6 times table:**



1 × 6 = ☐
2 × 6 = ☐
3 × 6 = ☐
4 × 6 = ☐
5 × 6 = ☐
6 × 6 = ☐
7 × 6 = ☐
8 × 6 = ☐
9 × 6 = ☐
10 × 6 = ☐

2 **Fill in the missing numbers:**

a ☐ × 6 = 54

b ☐ × 6 = 36

c ☐ × 6 = 18

d ☐ × 6 = 24

e ☐ × 6 = 60

f ☐ × 6 = 12

g ☐ × 6 = 48

3 **Complete this table by recalling the 3 times table. Then complete the 6 times table. Can you see how the 3 times table helps with the 6 times table?**

	3	8	2	5	9	10	6
× 3							
× 6							

4 **Solve these problems.**

a I saved $7 every week over 6 weeks.
How much did I save in total?
☐ × ☐ = ☐

b 8 pencil cases had 3 blue pens in each.
How many blue pens are there in total?
☐ × ☐ = ☐

c 9 vases each had 6 flowers.
How many flowers were there in total?
☐ × ☐ = ☐

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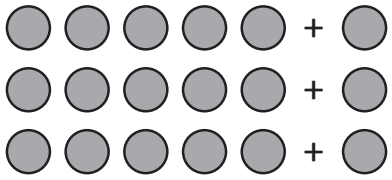
Multiplication facts – 6 times table



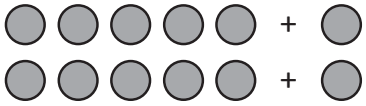
You know more times tables facts than you realise. For example, knowing your × 5 can help with your × 6.

The array shows 3 rows of 5. If we add another dot to each row we can change 3 rows of 5 to 3 rows of 6. This is called building up.

$3 \times 5 = 15 + 3 \longrightarrow 3 \times 6 = 18$

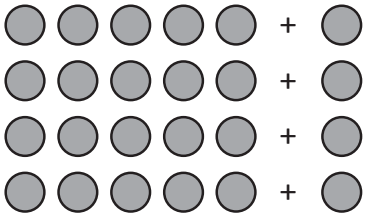
5 **Change these × 5 arrays into × 6 arrays.**

a



$2 \times 5 = \square + \square \longrightarrow 2 \times 6 = \square$

b



$4 \times 5 = \square + \square \longrightarrow 4 \times 6 = \square$

6 **Complete this table to show how to change a × 5 array to a × 6 array by building up. The first one has been done for you.**

	× 5	Build up by	× 6
a	3 × 5 = 15	*3*	*3 × 6 = 18*
b	2 × 5 = 10		
c	7 × 5 = 35		
d	4 × 5 = 20		
e	6 × 5 = 30		
f	9 × 5 = 45		

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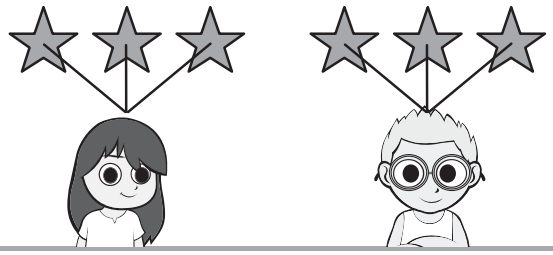
Division – sharing and grouping

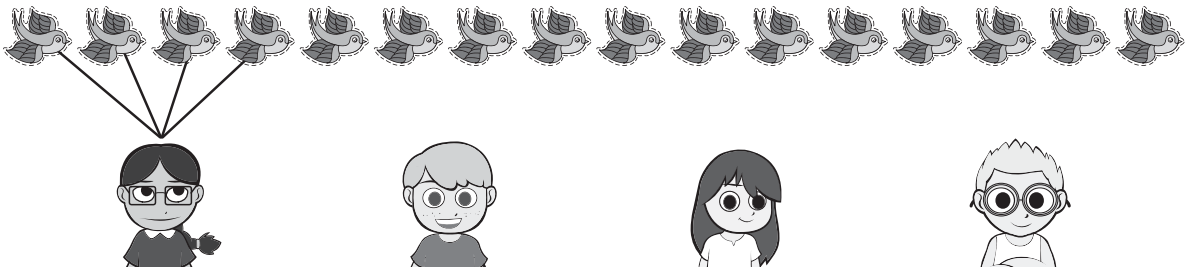
Division is when we make fair shares.

If we share these 6 star stickers equally between 2 kids, they each get 3 star stickers. We call these fair shares because each share is equal.

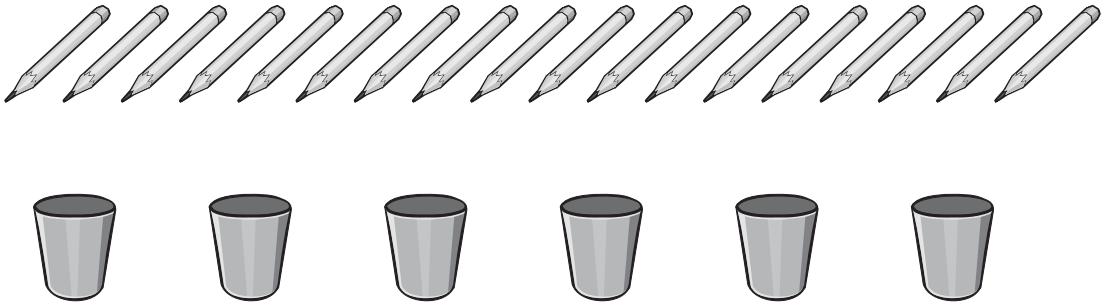


1 **Share the items equally in each picture by drawing lines to connect them. Write how many are in each share.**

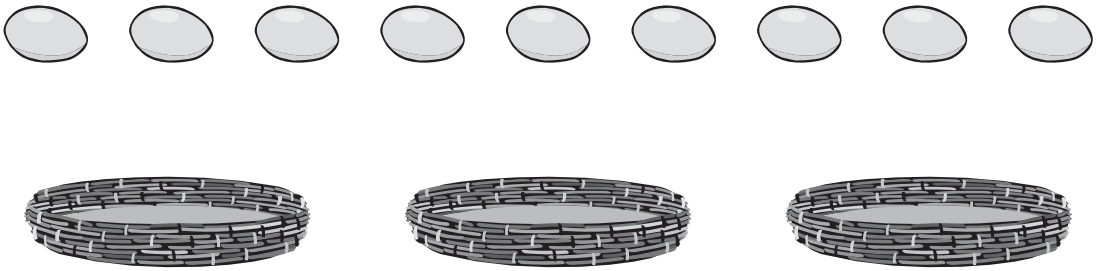
a Share these 16 stickers between 4 kids. 4 equal shares = _____ each



b Share these 18 pencils between 6 pots. 6 equal shares = _____ each



c Share these 9 eggs between 3 baskets. 3 equal shares = _____ each



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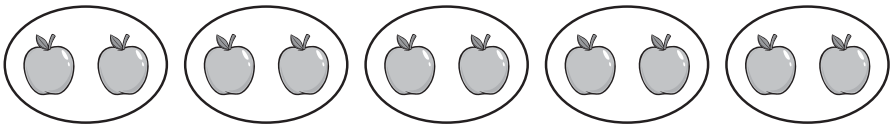
Division – sharing and grouping

Division is also when we make equal groups.

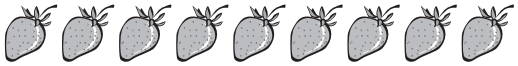
Here are 10 apples. How many bags do we need if we put 2 in each bag?



If we circle 2 apples in each group, we can make 5 groups. So, we need 5 bags.

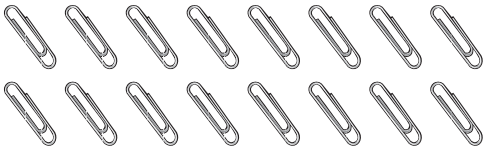
2 **Circle equal groups in each picture and write how many are in each share:**

a



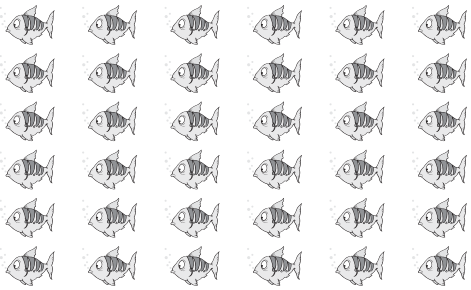
Out of 9 strawberries, how many groups are there if there are 3 in each group? ☐

b



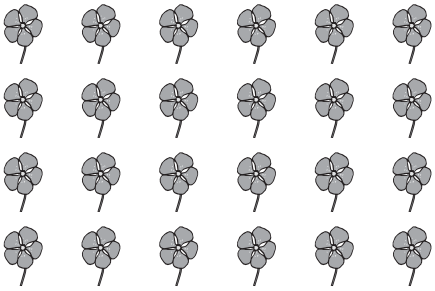
Out of 16 paper clips, how many groups are there if there are 4 in each group? ☐

c



Out of 36 fish, how many groups are there if there are 6 in each group? ☐

d



Out of 24 flowers, how many groups are there if there are 4 in each group? ☐

3 **Draw a picture to show 7 groups with 5 in each share.**

How many in total? ☐

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Division – the division symbol

This is a division symbol ÷

So instead of saying 'Share 12 tennis balls fairly between 2 tennis players. How many balls do they each get?'

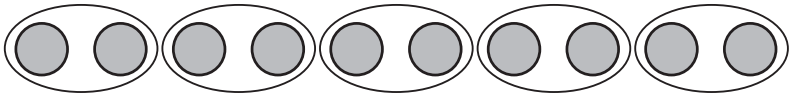
We can write: 12 ÷ 2 = 6

This says 12 divided by 2 is 6. It means that there are 2 groups of 6.

1 **Write the division facts using the division symbol for each picture:**

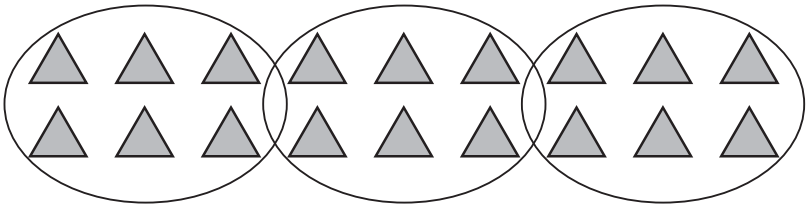
a 10 divided by 5

☐ ÷ ☐ = ☐



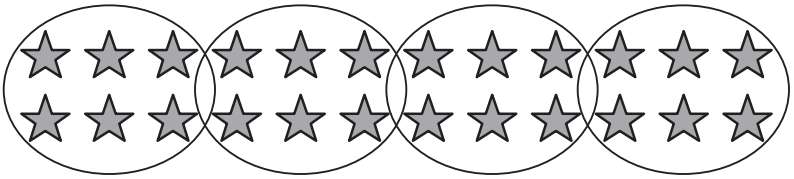
b 18 divided by 3

☐ ÷ ☐ = ☐



c 24 divided by 4

☐ ÷ ☐ = ☐



2 **Solve each of these division problems:**

a Share 15 books among 3 shelves.
How many books are on each shelf?

☐ ÷ ☐ = ☐

b Share 20 oranges between 5 baskets.
How many are in each basket?

☐ ÷ ☐ = ☐

c Out of a pile of 36 coloured pencils, 6 go into each pot.
How many pots are needed?

☐ ÷ ☐ = ☐

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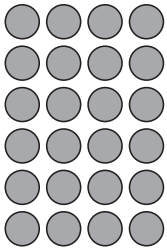
Division – linking multiplication and division facts

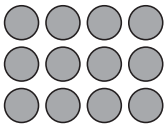
Knowing multiplication facts will help with division facts.



$6 \times 4 = 24$ 6 rows of 4 is 24.

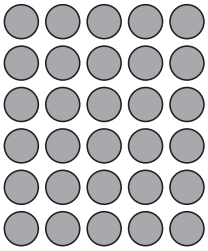
$24 \div 4 = 6$ 24 divided into 4 shares is 6.

1 **Describe each of these arrays using one multiplication and one division fact:**

a 

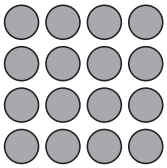
$\square \times 4 = 12$

$12 \div 4 = \square$

b 

$\square \times 5 = 30$

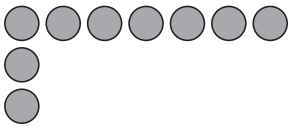
$30 \div 5 = \square$

c 

$\square \times 4 = 16$

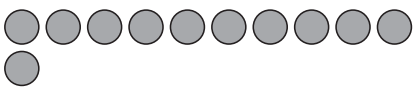
$16 \div 4 = \square$

2 **This time, you are given part of the array. Complete the array and then write one multiplication and one division fact that matches:**

a 

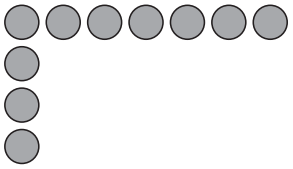
$\square \times \square = \square$

$\square \div \square = \square$

b 

$\square \times \square = \square$

$\square \div \square = \square$

c 

$\square \times \square = \square$

$\square \div \square = \square$

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Division – linking multiplication and division facts

3 **Play this memory game with a partner. The aim of this game is to find pairs of matching multiplication and division facts. Each player needs a copy of this page and to cut out their cards. Players join their cards together, shuffle and lay them face down. Take turns in turning over a pair of cards. If they match the player keeps the pair, if they don't match, they must be placed back in the same position. The winner is the player with the most pairs.**

16 ÷ 4	4 × 4
20 ÷ 4	4 × 5
12 ÷ 2	2 × 6
21 ÷ 3	3 × 7
8 ÷ 4	2 × 4
18 ÷ 2	2 × 9

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Highest product

apply

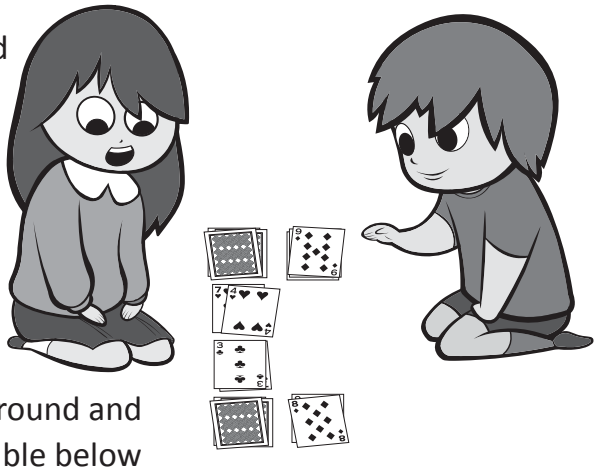
Getting ready

This is a game for two players. You will need a pack of playing cards but just the cards with numbers on them. You will also need a copy of this page so you can use the table to keep score.

C copy

What to do

Shuffle the cards well and deal them evenly so you each get 18 cards. Player 1 turns over two cards and finds the product by multiplying these together. Player 2 does the same. The highest answer wins the round and scores a point. Use the table below to keep track of your scores.



Player 1	Player 2

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Mystery numbers

solve

What to do

Read the clues to find out the mystery number:

I am a multiple of 6.

I am also a multiple of 4.

I am greater than 10, but less than 20.

I am greater than 5 × 6.

I am less than 40.

I am a square number.

I am smaller than 6 × 7.

I am bigger than 6 squared.

The sum of my digits is 12.

When I am multiplied by a die number, I make 20.

I am less than 5.

I am bigger than 7 × 9.

I am less than 7 × 11.

I am divisible by 10.

I am a factor of 48.

I am bigger than 4 squared.

I am smaller than 5 squared.

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Multiplication concentration

apply

This is a game for two players. Copy this page and page 35, and then cut out all the cards.

Shuffle the cards well and lay them out face down in an array in two groups. The rectangles are the questions, the squares are the answers. Players take turns turning over one of each card. If they can make a multiplication fact, the player keeps the pair. Keep playing until there are no cards left. The winner is the player with the most matching pairs.

4 × 8	2 × 9	7 × 5	3 × 3
6 × 4	9 × 3	4 × 4	5 × 8
4 × 5	8 × 8	3 × 5	8 × 9
7 × 6	6 × 6	4 × 7	9 × 5
5 × 5	8 × 6	7 × 2	5 × 10

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3 × 7	3 × 10	
4 × 9	9 × 7	8 × 7

= 32	= 18	= 35	= 24	= 27
= 30	= 20	= 21	= 15	= 42
= 36	= 28	= 25	= 48	= 14
= 72	= 56	= 40	= 45	= 63
= 9	= 50	= 16	= 36	= 64

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Product bingo

apply

Getting ready

This is a game for four players. Each player needs a copy of this page and 5 counters. The group needs 2 dice. Make extra copies of this page so you can play again.

What to do

Choose one player to be the caller. The other players fill their grid with numbers from this list: 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, 16, 18, 20, 24, 25, 30 and 36.

The caller rolls the dice and calls out a times table fact based on the numbers rolled. For example, if they roll a 6 and a 5, they would say 6 × 5. If a player has 30 in their grid, they place a counter on the number. The winner is the first player to get rid of all their counters.

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