

14.1.21

WALT Recall and Use Division Facts for the 7 $\times$
Table

F

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PS

Quick Warm Up: Counting Forwards and Backwards in 6s, 9s and 7s

You need a blank piece of paper and a pen or pencil. Don't start until you see the 'go' sign.

Starting at 0, write the multiples of 6.

On a new line, write the multiples of 7.

Then on another new line, write the multiples of 9.

Stop when you get to $12 \times$ your number.

When you have finished counting forwards, on three more lines, write the multiples counting backwards.

Start at 72 to count back in 6s.

Start at 108 to count back in 9s.

Start at 84 to count back in 7s.



Can you count backwards without looking at your answers from counting forwards?

Quick Warm Up: Counting Forwards and Backwards in 6s, 9s and 7s

Now, mark your answers:

0	6	12	18	24	30	36	42	48	54	60	66	72
0	9	18	27	36	45	54	63	72	81	90	99	108
0	7	14	21	28	35	42	49	56	63	70	77	84
72	66	60	54	48	42	36	30	24	18	12	6	0
108	99	90	81	72	63	54	45	36	27	18	9	0
84	77	70	63	56	49	42	35	28	21	14	7	0

How easy was this? Which number(s) do you need to practise counting in?

Vocabulary

array

equal

groups of

lots of

times table

total

altogether

number sentence

multiply

multiplication

product

sum

multiples

odd

even

double

division

inverse

square numbers

Learning the 7x Table

The 7x table is one of the hardest times tables to learn.

But, remember that with multiplication number sentences, the order of the two numbers can be changed.

$$10 \times 7 = 7 \times 10 = \underline{70}$$

$$4 \times 7 = 7 \times 4 = \underline{28}$$

Learning the 7x Table

So, you already know (or can work out in a different way) the answers to all of these facts in the 7x table. You don't have to count up in 7s.

2×7 - count in 2s 5×7 - count in 5s 10×7 - count in 10s

3×7 - count in 3s 4×7 - count in 4s 8×7 - count in 8s

6×7 - count in 6s 9×7 - count in 9s

For each question, you would need to count up 7 times

Learning the 7x Table

This means that you only need to count up in 7s to find these answers:

$$7 \times 7 = \underline{49}$$

$$11 \times 7 = \underline{77}$$

$$12 \times 7 = \underline{84}$$

For 11×7 , start at $10 \times 7 = 70$ and just add on 7.

For 12×7 , start at $10 \times 7 = 70$ and add on two 7s this time.

Learning the 7x Table

7 x 7 is one of a special group of numbers in the times tables where a number is multiplied by itself.

Other examples are:

$$3 \times 3 = \underline{9}$$

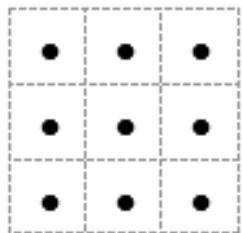
$$4 \times 4 = \underline{16}$$

and so on.

Does anyone know what these special numbers are called?

Learning the 7x Table

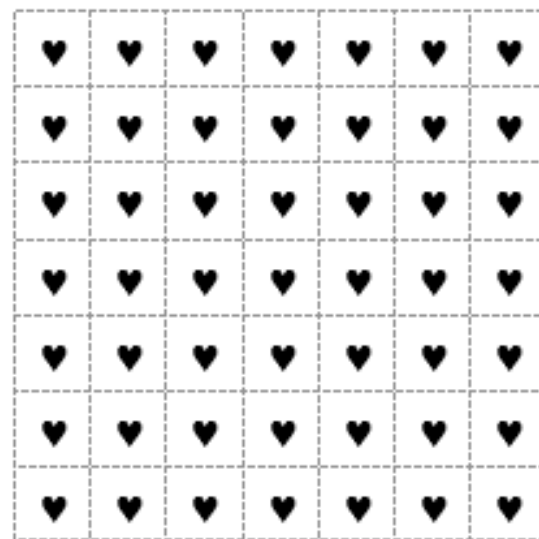
Here are some arrays to help you:



$$3 \times 3 = \underline{9}$$



$$4 \times 4 = \underline{16}$$



$$7 \times 7 = \underline{49}$$

These special numbers are called: **square numbers**

Fact Families

Can you write all four number sentences for the swimming swans fact family?

$$\begin{array}{rclcl} \underline{6} & \times & \underline{7} & = & \underline{42} \\ \underline{7} & \times & \underline{6} & = & \underline{42} \\ \hline \underline{42} & \div & \underline{6} & = & \underline{7} \\ \underline{42} & \div & \underline{7} & = & \underline{6} \end{array}$$



7 14 21 28 35 42

Check that the BIG number is in the correct place for each number sentence.

Related Facts

How does 3×7 help to work out the following questions?

$$3 \times 70 = \boxed{210}$$

$$3 \times 7 \times 10 = 21 \times 10$$

$$300 \times 7 = \boxed{2100}$$

$$3 \times 7 \times 100 = 21 \times 100$$

Can you work out the following answers?

$$40 \times 7 = 280$$

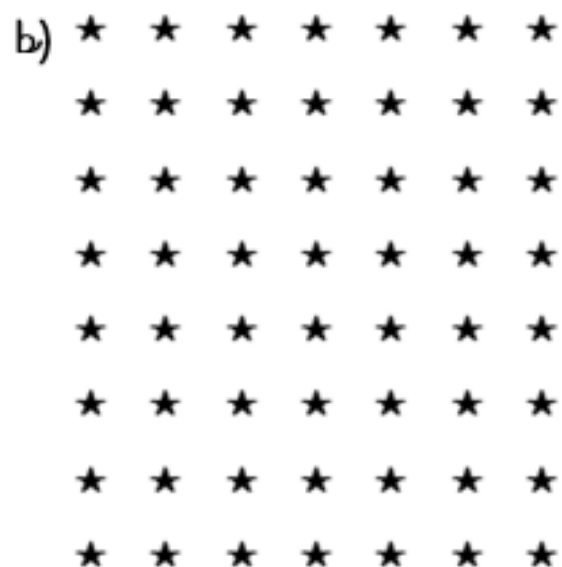
$$5 \times 70 = 350$$

$$6 \times 700 = 4200$$

$$70 \times 70 = 4900$$

Fluency 1

1. For each array, write 4 number sentences from the same fact family.



2. Complete each multiplication number sentence, then write one of the division number sentences from the same fact family.

a) $3 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

f) $11 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

b) $7 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

g) $8 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

c) $12 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

h) $4 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

d) $1 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

i) $9 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

e) $5 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

j) $6 \times 7 = \underline{\hspace{2cm}}$ so $\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

3. Which missing numbers have been covered by the splats?

a) $35 \div 7 = \text{splat}$

d) $84 \div 7 = \text{splat}$

b) $7 \times \text{splat} = 63$

e) $\text{splat} \times 7 = 49$

c) $\text{splat} \div 7 = 6$

f) $\text{splat} \div 7 = 4$

Fluency 2

1	21	÷	7	-			16	70	÷	7	-			
2	56	÷	7	-			17	63	÷	7	-			
3	14	÷	7	-			18	7	÷	7	-			
4	35	÷	7	-			19	35	÷	7	-			
5	70	÷	7	-			20	77	÷	7	-			
6	28	÷	7	-			21	56	÷	7	-			
7	42	÷	7	-			22	21	÷	7	-			
8	63	÷	7	-			23	14	÷	7	-			
9	49	÷	7	-			24	49	÷	7	-			
10	84	÷	7	-			25	21	÷	7	-			
11	7	÷	7	-			26	56	÷	7	-			
12	77	÷	7	-			27	42	÷	7	-			
13	42	÷	7	-			28	84	÷	7	-			
14	84	÷	7	-			29	35	÷	7	-			
15	28	÷	7	-			30	7	÷	7	-			

Reasoning 1

Match each calculation to the correct answer. Think carefully about how many zeros each answer will have.

80×7	•
60×70	•
30×7	•
7×200	•
800×7	•
70×10	•
70×70	•

•	4200
•	560
•	4900
•	5600
•	210
•	1400
•	700

For one of the pairs you have matched, explain how you know that your answer is correct.

Reasoning 2

Anna completes these number sentences using one of these symbols in each box.

= < >

$$7 \times 50 \quad \boxed{} \quad 50 \times 7$$

$$7 \times 10 \quad \boxed{} \quad 700 \times 1$$

$$8 \times 700 \quad \boxed{} \quad 80 \times 70$$

$$40 \times 70 \quad \boxed{} \quad 400 \times 7$$

Anna thinks that she can use the same symbol in every box to make all the number sentences correct.

Is Anna's idea true or false?

Choose the correct symbol to complete each number sentence and then explain your reasoning.

Problem Solving 1

In these triangle shaped puzzles, the numbers in the two bottom rectangles multiply to give the number in the top red rectangle. Can you work out the missing numbers?

1.

490

7

2.

280

4

3.

770

70

4.

2100

30

5.

8400

12

6.

5600

Problem Solving 2

Some children were in rows of 7. There were 5 girls and 2 boys in each row.



Use your times tables knowledge to work out:

- a) How many girls would there be in 10 rows?
- b) How many boys would there be in 100 rows?

Write a number sentence for each question to show how you found the answers.

Now, write your own questions, with the correct number sentences, linked to the picture.

How many different questions and number sentences can you write?

Other Ways to Practise Your 7x Table

Practise your 7x table and 7x table division on 'Hit the Button'

<https://www.topmarks.co.uk/maths-games/hit-the-button>

Answer some questions on Daily 10

<https://www.topmarks.co.uk/maths-games/daily10>

Look for a 7x table video or song on the internet.

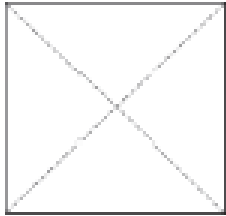
Count out loud in 7s in time to one of your favourite songs.

Make a 7x table Fortune Teller - there are instructions and a template on the next 2 slides.

7 Times Table Fortune Teller

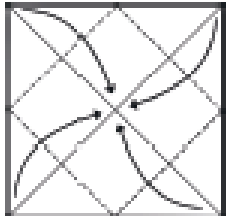
Instructions

①



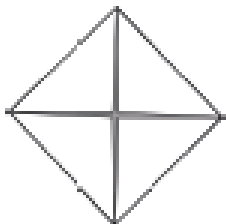
With pictures face down, fold on both diagonal lines. Unfold.

②



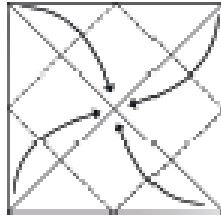
Fold all four corners to the centre.

③



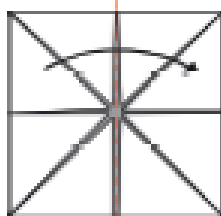
Turn paper over.

④



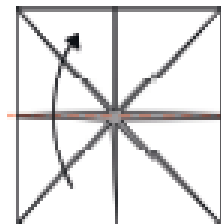
Once again, fold all corners to the centre.

⑤



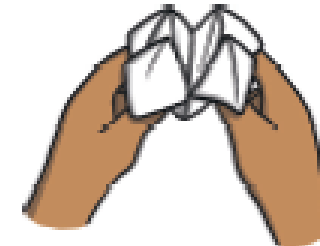
Fold paper in half and unfold.

⑥

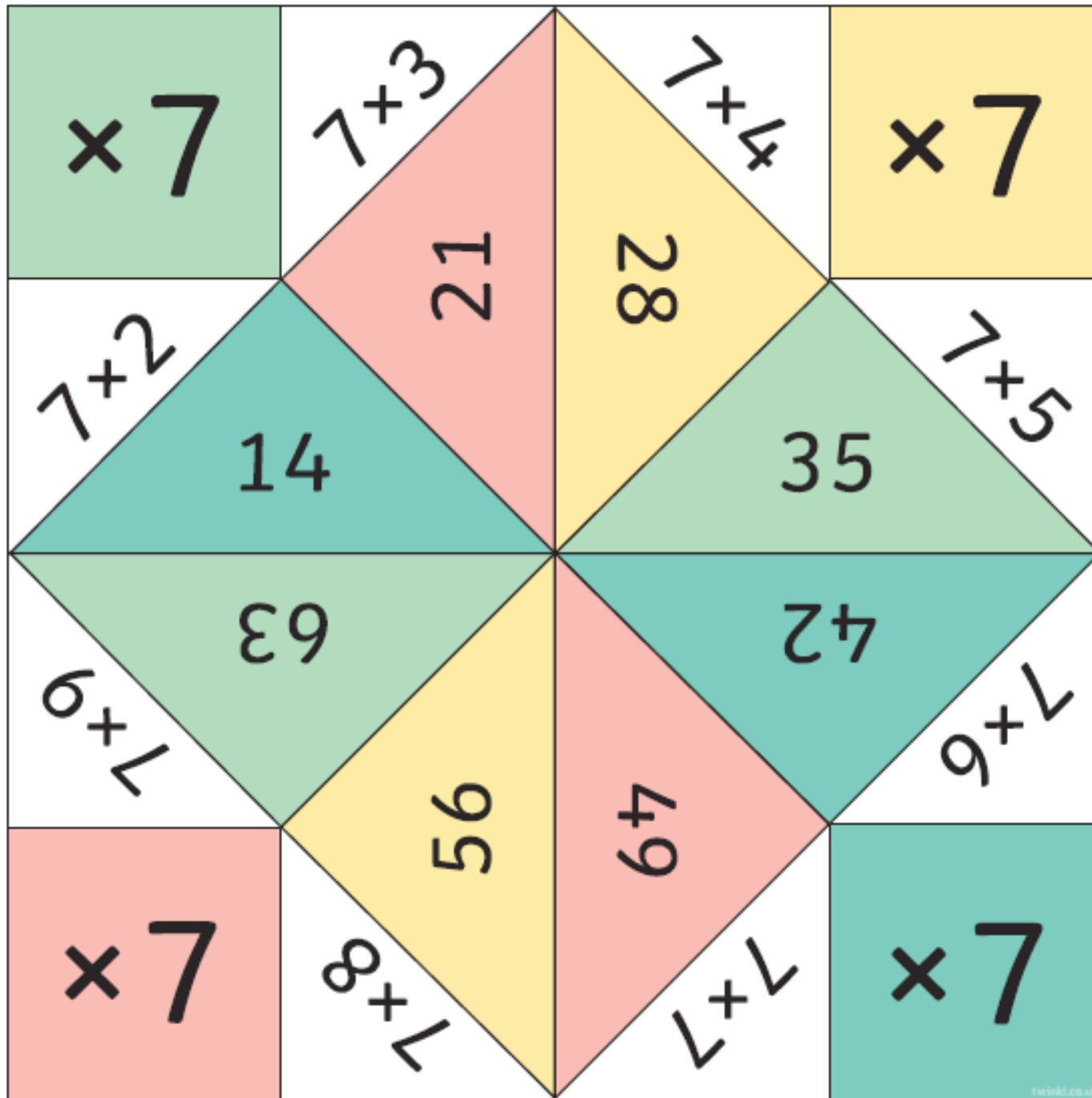


Fold in half from top to bottom. Do not unfold.

⑦



Slide thumbs and forefingers under the squares and move the fortune teller back and forth to play.



If you are able to print this slide, you could make the fortune teller to help you to practise your $7 \times$ table.

If you can't print this slide, try making your own fortune teller with a blank piece of paper. Then, write your own $7 \times$ table questions onto it.

Fluency 1

1.

$$6 \times 7 = 42$$

$$8 \times 7 = 56$$

$$7 \times 6 = 42$$

$$7 \times 8 = 56$$

$$42 \div 6 = 7$$

$$56 \div 8 = 7$$

$$42 \div 7 = 6$$

$$56 \div 7 = 8$$

Answers

2. Complete each multiplication number sentence, then write one of the division number sentences from the same fact family.

a) $3 \times 7 = 21$ so $21 \div 7 = 3$

f) $11 \times 7 = 77$ so $77 \div 7 = 11$

b) $7 \times 7 = 49$ so $49 \div 7 = 7$

g) $8 \times 7 = 56$ so $56 \div 7 = 8$

c) $12 \times 7 = 84$ so $84 \div 7 = 12$

h) $4 \times 7 = 28$ so $28 \div 7 = 4$

d) $1 \times 7 = 7$ so $7 \div 7 = 1$

i) $9 \times 7 = 63$ so $63 \div 7 = 9$

e) $5 \times 7 = 35$ so $35 \div 7 = 5$

j) $6 \times 7 = 42$ so $42 \div 7 = 6$

3. Which missing numbers have been covered by the splats?

a) $35 \div 7 = 5$

d) $84 \div 7 = 12$

b) $7 \times 9 = 63$

e) $7 \times 7 = 49$

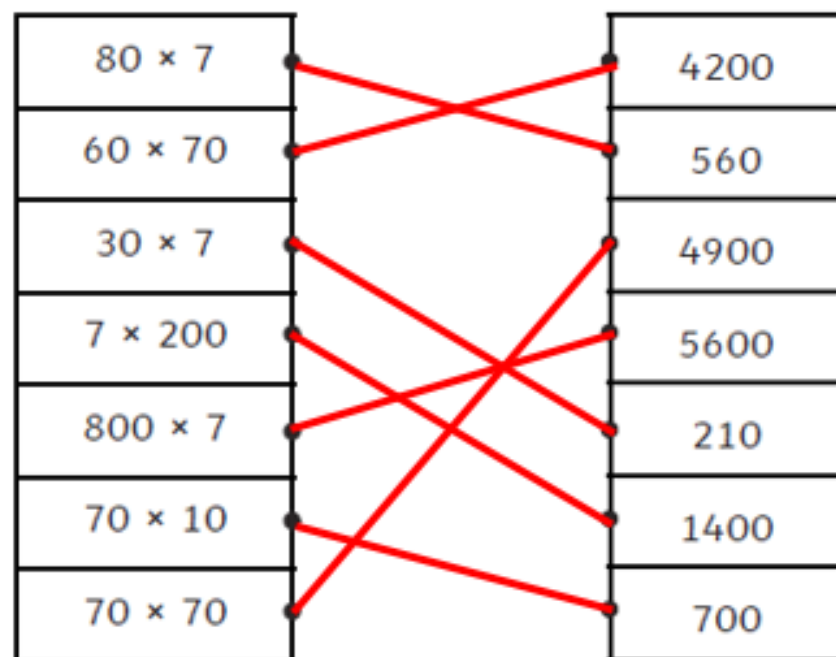
c) $42 \div 7 = 6$

f) $28 \div 7 = 4$

Fluency 2

1		21	÷	7	=	3		16	70	÷	7	=	10	
2		56	÷	7	=	8		17	63	÷	7	=	9	
3		14	÷	7	=	2		18	7	÷	7	=	1	
4		35	÷	7	=	5		19	35	÷	7	=	5	
5		70	÷	7	=	10		20	77	÷	7	=	11	
6		28	÷	7	=	4		21	56	÷	7	=	8	
7		42	÷	7	=	6		22	21	÷	7	=	3	
8		63	÷	7	=	9		23	14	÷	7	=	2	
9		49	÷	7	=	7		24	49	÷	7	=	7	
10		84	÷	7	=	12		25	21	÷	7	=	3	
11		7	÷	7	=	1		26	56	÷	7	=	8	
12		77	÷	7	=	11		27	42	÷	7	=	6	
13		42	÷	7	=	6		28	84	÷	7	=	12	
14		84	÷	7	=	12		29	35	÷	7	=	5	
15		28	÷	7	=	4		30	7	÷	7	=	1	

Reasoning 1



Example answer:

For 80×7 , the related fact that I know is $8 \times 7 = 56$.

There is a zero on the end of 80 so to get the final answer, I need to multiply 56 by 10.

This gives me the answer 560.

Reasoning 2

$$7 \times 50 = 50 \times 7$$

$$7 \times 10 < 700 \times 1$$

$$8 \times 700 = 80 \times 70$$

$$40 \times 70 = 400 \times 7$$

Anna's idea is false. She can use the same equals symbol = in three of the boxes, but the number sentence in the top right needs a less than < symbol, instead of an equal sign = to be correct.

Problem Solving I

1.

490

7

70

2.

280

4

70

3.

770

11

70

4.

2100

70

30

5.

8400

12

700

6.

5600

70

80

For question 6, there are two other possible pairs of numbers:

7 and 800

700 and 8

Problem Solving 2

- a) In 10 rows, there would be 5×10 girls = 50 girls
- b) In 100 rows, there would be 2×100 boys = 200 boys.