

Lesson 19 – Multiplication & Division – 8 Times Tables

NC Objective:
Recall and use multiplication and division facts for the 3,4 and 8 multiplication tables

Resources needed:
Differentiated Sheets
Teaching Slides

Vocabulary:
Multiplication, distributive law

Children use prior knowledge of multiplication facts for 2, 3, 4 and 5 times tables along with the distributive law in order to calculate unknown multiplication facts.

Key Questions:
Why is it helpful to partition the number you are multiplying by?
Can you use concrete or pictorial representations to help you?
What other facts can you link to this one?
What other times tables will help you with this times table?

★ Working Towards

Complete the bar models and write the calculation represented. Match the bar models with the correct answers.

8 x 3 = 24
8 x 4 = 32
8 x 5 = 40
8 x 6 = 48
8 x 7 = 56
8 x 8 = 64

★★ Working Within

Complete the bar models and write the calculation represented.

8 x 6 = 48
8 x 7 = 56
8 x 8 = 64

Use the multiplication tables to show how you can use known facts to find the answer to your multiplication.

8 x 6 = 48
8 x 7 = 56
8 x 8 = 64

★★★ Greater Depth

Complete the bar models and write the calculation represented.

1. I subtract 8 from 80 to work out 8×9 .
Can you explain why Leanna does this and how it can help?

2. I subtract 8 from 40 to work out 8×4 .
Can you explain why Malachi does this and how it can help?

3. I add 16 twice to work out 8×4 .
Why does this work? Explain.

4. I always forget the answer to 8×7 .
What advice can you give her?

Children practise their 8 times tables using the bar method. They match arrays with the correct answers.

Children should use prior knowledge of multiplication facts, along with the distributive law to show how they can calculate unknown facts for their 8 times tables.

On this sheet, children are fluent in their 8 times tables and focus on reasoning. They explain how they can remember unknown facts.

Reasoning & Problem Solving

Esin is finding the fifth number in the multiplication table.

x	1	2	3	4	5
8	8	16	24	32	

Esin: The missing number is an odd number because it is in the fifth column and 5 is an odd number.
Explain why Esin is incorrect.

Malachi has some packs of orange juice which are in a box.

Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.

Malachi's box contains 24 cartons of juice.
How many packs of 4 cartons and how many packs of 8 cartons could there be?
Find all the possibilities.

Esin is finding the seventh number in the multiplication table.

x	1	2	3	4	5	6	7
8	8		24				

Esin: The missing number is an odd number because it is in the 7th column and 7 is an odd number.
Explain why Esin is incorrect.

Malachi has some packs of orange juice which are in a box.

Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.

Malachi's box contains 48 cartons of juice.
How many packs of 4 cartons and how many packs of 8 cartons could there be?
Find all the possibilities.

Here is part of a multiplication table.

x	1	2	3	4	5	6	7
8							

Esin: The 25th column will be an odd number because 25 is an odd number.
Is Esin correct? Should you continue the multiplication table to prove your answer?

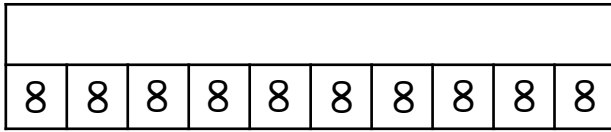
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Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.

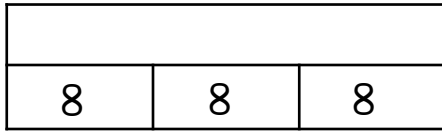
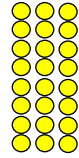
Malachi's box contains less than fifty but more than forty cartons of juice.
How many packs of 4 cartons and how many packs of 8 cartons could there be?
Find all the possibilities.



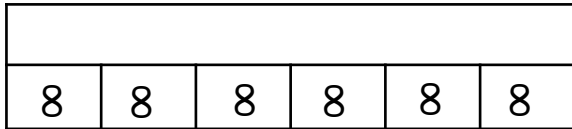
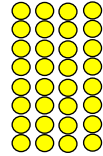
Complete the bar models and write the calculation represented. Find the matching image.



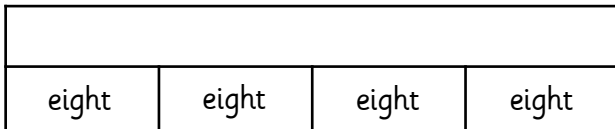
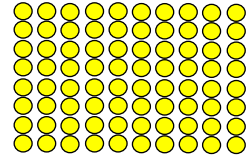
$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$



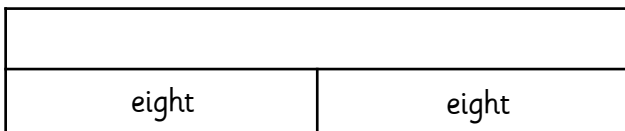
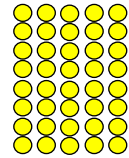
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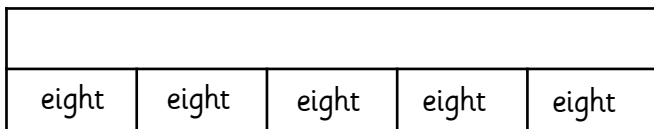
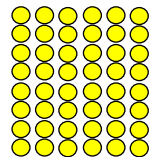
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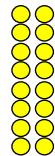
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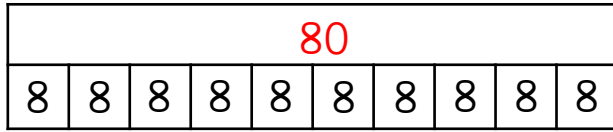


$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

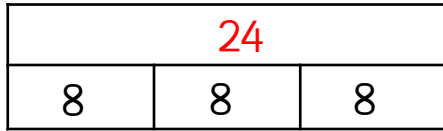
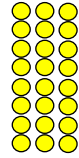




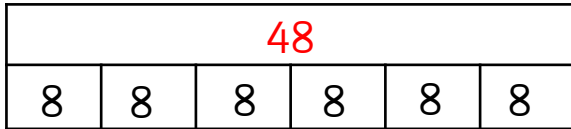
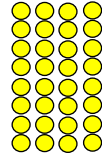
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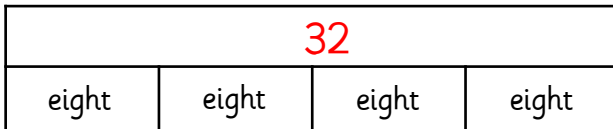
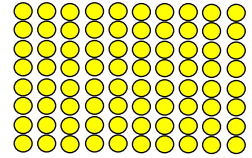
$$\underline{8} \times \underline{10} = \underline{80}$$



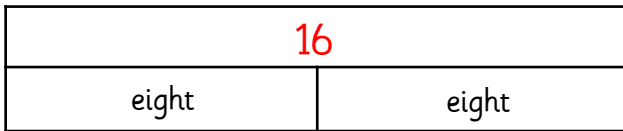
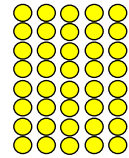
$$\underline{8} \times \underline{3} = \underline{24}$$



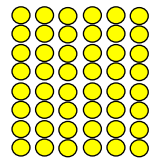
$$\underline{8} \times \underline{6} = \underline{48}$$



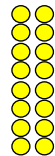
$$\underline{8} \times \underline{4} = \underline{32}$$



$$\underline{8} \times \underline{2} = \underline{16}$$

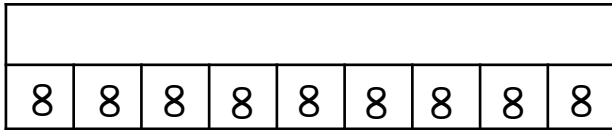


$$\underline{8} \times \underline{5} = \underline{40}$$

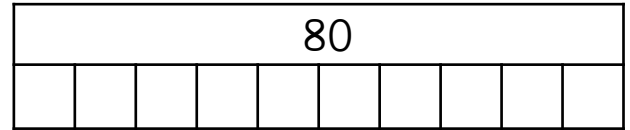




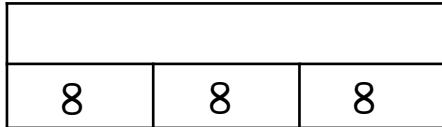
Complete the bar models and write the calculation represented.



$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$



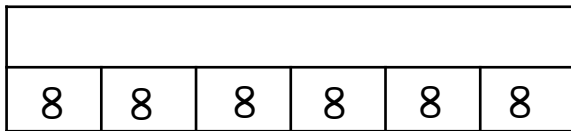
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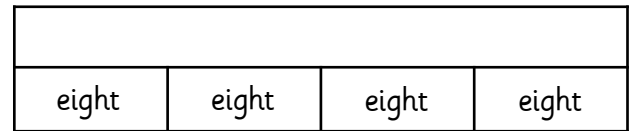
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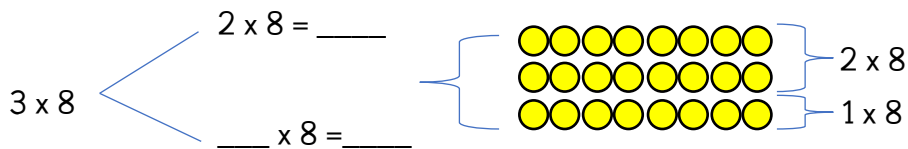


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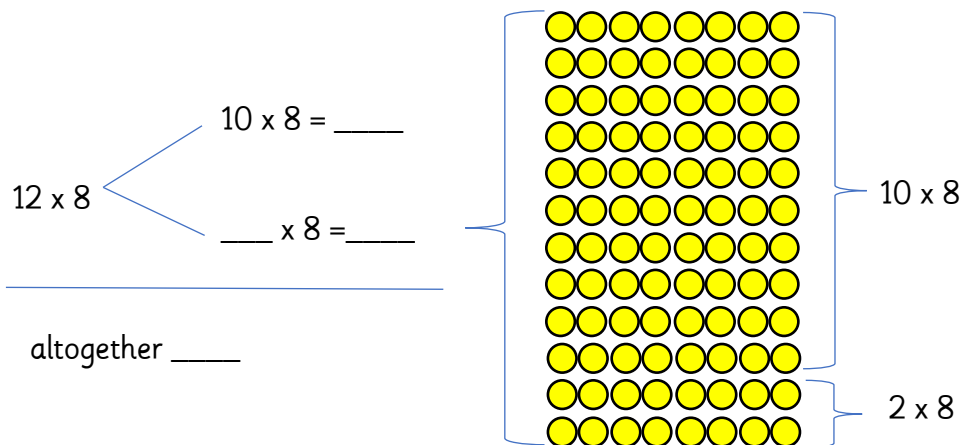


$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Use the images below to show how you can use known facts to find the answer to your times tables.



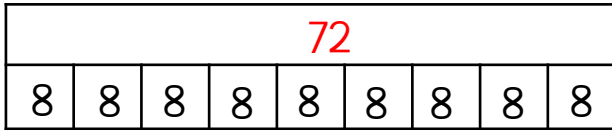
altogether $\underline{\quad}$



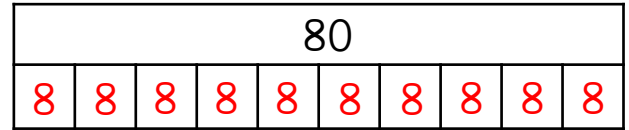
altogether $\underline{\quad}$



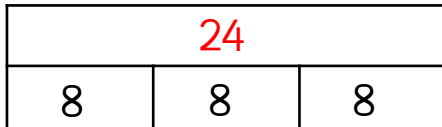
Complete the bar models and write the calculation represented.



$$\underline{8} \times \underline{9} = \underline{72}$$



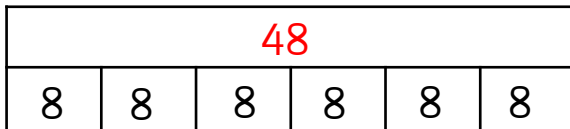
$$\underline{8} \times \underline{10} = \underline{80}$$



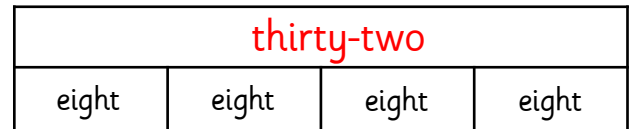
$$\underline{8} \times \underline{3} = \underline{24}$$



$$\underline{8} \times \underline{6} = \underline{48}$$

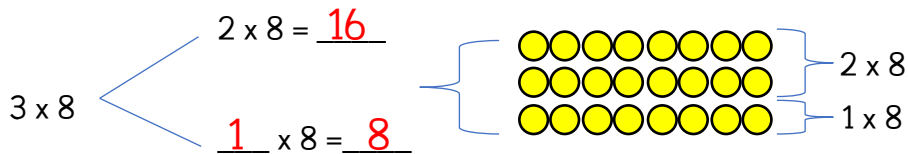


$$\underline{8} \times \underline{6} = \underline{48}$$

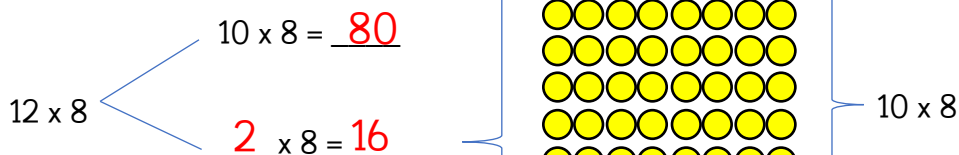


$$\underline{8} \times \underline{4} = \underline{32}$$

Use the images below to show how you can use known facts to find the answer to your times tables.



altogether 24



altogether 96



Complete the bar models and write the calculation represented.



I subtract 8 from 80 to work out 8×9 .

Can you explain why Leanna does this and how it can help?

1.



I subtract 8 from 40 to work out 8×4 .

Can you explain why Malachi does this and how it can help?

2.



I add 16 twice to work out 8×4 .

Why does this work? Explain.

3.



I always forget the answer to 8×7 !

What advice can you give her?

4.



Complete the bar models and write the calculation represented.



I subtract 8 from 80 to work out 8×9 .

Can you explain why Leanna does this and how it can help?

1.



I subtract 8 from 40 to work out 8×4 .

Can you explain why Malachi does this and how it can help?

2.



I add 16 twice to work out 8×4 .

Why does this work? Explain.

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I always forget the answer to 8×7 !

What advice can you give her?

4.



Complete the bar models and write the calculation represented.

Examples



I subtract 8 from 80 to work out 8×9 .

Leanna knows that 10 times 8 is 80. If she takes away 8- this will mean that 9 times 8 is 8 less than 80, which is 72.

1.



I subtract 8 from 40 to work out 8×4 .

Malachi knows that 5 times 8 is 40. If he takes away 8- this will mean that 4 times 8 is 8 less than 40, which is 32.

2.



I add 16 twice to work out 8×4 .

Rosie knows that 2 times 8 is 16, so she doubles 16 which will make 4 times 8, which is 32.

3.



I always forget the answer to 8×7 !

Rosie could try to remember 8×5 which is 40 and then 8×2 which is 16. Using knowledge of addition she knows $40 + 16 = 56$. $8 \times 7 = 56$

4.



Complete the bar models and write the calculation represented.

Examples



I subtract 8 from 80 to work out 8×9 .

Leanna knows that 10 times 8 is 80. If she takes away 8- this will mean that 9 times 8 is 8 less than 80, which is 72.

1.



I subtract 8 from 40 to work out 8×4 .

Malachi knows that 5 times 8 is 40. If he takes away 8- this will mean that 4 times 8 is 8 less than 40, which is 32.

2.



I add 16 twice to work out 8×4 .

Rosie knows that 2 times 8 is 16, so she doubles 16 which will make 4 times 8, which is 32.

3.



I always forget the answer to 8×7 !

Rosie could try to remember 8×5 which is 40 and then 8×2 which is 16. Using knowledge of addition she knows $40 + 16 = 56$. $8 \times 7 = 56$

4.



Esin is finding the fifth number in the multiplication table.

x	1	2	3	4	5
8	8	16	24	32	

Esin



The missing number is an odd number because it is in the fifth column and 5 is an odd number.

Explain why Esin is incorrect.



Malachi has some packs of orange juice which are in a box.

Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.



Malachi's box contains 24 cartons of juice.

How many packs of 4 cartons and how many packs of 8 cartons could there be?

Find all the possibilities.



Esin is finding the fifth number in the multiplication table.

x	1	2	3	4	5
8	8	16	24	32	

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x	1	2	3	4	5
8	8	16	24	32	

Esin



The missing number is an odd number because it is in the fifth column and 5 is an odd number.

Explain why Esin is incorrect.

This is a part of the 8 times table and it is repeated addition, so keeps adding an even number each time, and when you add an even number to an even number you always get an even number.



Malachi has some packs of orange juice which are in a box.

Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.



Malachi's box contains 24 cartons of juice.

How many packs of 4 cartons and how many packs of 8 cartons could there be?

Find all the possibilities.

Possible answers:

- 2 packs of 8 cartons, 2 packs of 4 cartons;
- 1 pack of 8 cartons, 4 packs of 4 cartons.



Esin is finding the fifth number in the multiplication table.

x	1	2	3	4	5
8	8	16	24	32	

Esin



The missing number is an odd number because it is in the fifth column and 5 is an odd number.

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Malachi's box contains 24 cartons of juice.

How many packs of 4 cartons and how many packs of 8 cartons could there be?

Find all the possibilities.

Possible answers:

- 2 packs of 8 cartons, 2 packs of 4 cartons;
- 1 pack of 8 cartons, 4 packs of 4 cartons.



Esin is finding the seventh number in the multiplication table.

x	1	2	3	4	5	6	7
8	8		24				

Esin



The missing number is an odd number because it is in the 7th column and 7 is an odd number.

Explain why Esin is incorrect.



Malachi has some packs of orange juice which are in a box.

Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.



Malachi's box contains 48 cartons of juice.

How many packs of 4 cartons and how many packs of 8 cartons could there be?

Find all the possibilities.



Esin is finding a seventh number in the multiplication table.

x	1	2	3	4	5	6	7
8	8		24				

Esin



The missing number is an odd number because it is in the 7th column and 7 is an odd number.

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Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.



Malachi's box contains 48 cartons of juice.

How many packs of 4 cartons and how many packs of 8 cartons could there be?

Find all the possibilities.

Possible answers:

- 5 packs of 8 cartons, 2 packs of 4 cartons;
- 4 packs of 8 cartons, 4 packs of 4 cartons;
- 3 packs of 8 cartons, 6 packs of 4 cartons;
- 2 packs of 8 cartons, 8 packs of 4 cartons;
- 1 pack of 8 cartons, 10 packs of 4 cartons.



Esin is finding the seventh number in the multiplication table.

x	1	2	3	4	5	6	7
8	8		24				

Esin



The missing number is an odd number because it is in the 7th column and 7 is an odd number.

Explain why Esin is incorrect.

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Find all the possibilities.

Possible answers:

- 5 packs of 8 cartons, 2 packs of 4 cartons;
- 4 packs of 8 cartons, 4 packs of 4 cartons;
- 3 packs of 8 cartons, 6 packs of 4 cartons;
- 2 packs of 8 cartons, 8 packs of 4 cartons;
- 1 pack of 8 cartons, 10 packs of 4 cartons.



Here is part of a multiplication table.

x	1	2	3	4	5	6	7
8							

Esin



The 25th column will be an odd number because 25 is an odd number.

Is Esin correct?
Should you continue the multiplication table to prove your answer?



Malachi has some packs of orange juice which are in a box.

Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.



Malachi's box contains less than fifty but more than forty cartons of juice.

How many packs of 4 cartons and how many packs of 8 cartons could there be?

Find all the possibilities.



Here is part of a multiplication table.

x	1	2	3	4	5	6	7
8							

Esin



The 25th column will be an odd number because 25 is an odd number.

Is Esin correct?
Should you continue the multiplication table to prove your answer?



Malachi has some packs of orange juice which are in a box.

Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.



Malachi's box contains less than fifty but more than forty cartons of juice.

How many packs of 4 cartons and how many packs of 8 cartons could there be?

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Here is part of a multiplication table.

x	1	2	3	4	5	6	7
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Esin



The 25th column will be an odd number because 25 is an odd number.

Is Esin correct?
Should you continue the multiplication table to prove your answer?

Esin is not correct. You do not need to continue the multiplication table to prove your answer because the 8 times table is repeated addition, so keeps adding an even number each time, and when you add an even number to an even number you always get an even number.



Malachi has some packs of orange juice which are in a box.

Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.



Malachi's box contains less than fifty but more than forty cartons of juice.

How many packs of 4 cartons and how many packs of 8 cartons could there be?

Find all the possibilities.

There are both packs (4 and 8 cartons) in the box, so between 40 and 50, it could be 44 (divisible by 4) and 48 which is divisible by 4 and 8. Possible answers for 48 are:
5 packs of 8 cartons, 2 packs of 4 cartons;
4 packs of 8 cartons, 4 packs of 4 cartons;
3 packs of 8 cartons, 6 packs of 4 cartons;
2 packs of 8 cartons, 8 packs of 4 cartons;
1 pack of 8 cartons, 10 packs of 4 cartons.



Here is part of a multiplication table.

x	1	2	3	4	5	6	7
8							

Esin



The 25th column will be an odd number because 25 is an odd number.

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Malachi has some packs of orange juice which are in a box.

Some packs have 4 cartons of juice in them, and some packs have 8 cartons in them.



Malachi's box contains less than fifty but more than forty cartons of juice.

How many packs of 4 cartons and how many packs of 8 cartons could there be?

Find all the possibilities.

There are both packs (4 and 8 cartons) in the box, so between 40 and 50, it could be 44 (divisible by 4) and 48 which is divisible by 4 and 8. Possible answers for 48 are:
5 packs of 8 cartons, 2 packs of 4 cartons;
4 packs of 8 cartons, 4 packs of 4 cartons;
3 packs of 8 cartons, 6 packs of 4 cartons;
2 packs of 8 cartons, 8 packs of 4 cartons;
1 pack of 8 cartons, 10 packs of 4 cartons.