Lesson 18 – Multiplication & Division – Divide by 8

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

Resources needed:
Differentiated Sheets
Teaching Slides

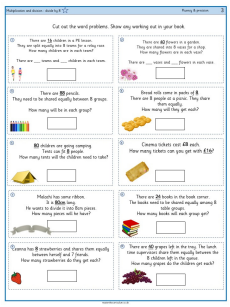
Vocabulary:
Division, equal groups, grouping, represent, inverse operations

Children explore dividing by 8 through sharing into eight equal groups and grouping in eights. They use concrete and pictorial representations and their knowledge of inverse operations to check their answers. Children are given word problems to solve, which involve dividing by 8.

Key Questions:

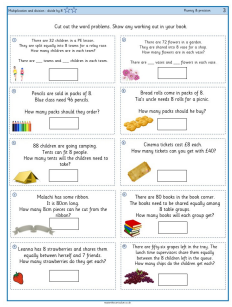
What concrete/pictorial representations might help you?
Can you group the numbers in eights?
Can you share the number into eights groups?
Can you use any prior knowledge to check your answer?

★ Working Towards



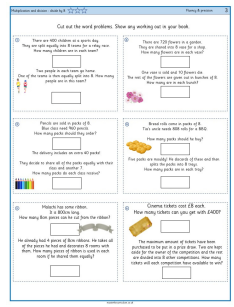
They use sharing and grouping to solve the problems. On this sheet, they focus on simple division (2, 5 and 10) .They cut out word problems and show their solution beside the problem. Key numbers are in bold and underlined.

★★ Working Within



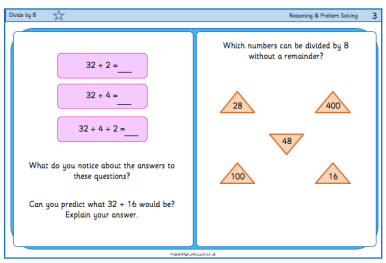
They use sharing and grouping to solve the problems.
They cut out word problems and show their solution beside the problem.

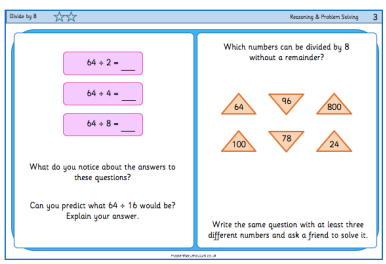
★★★ Greater Depth

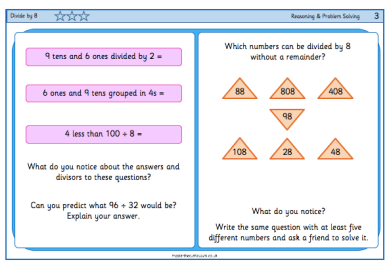


On this sheet, children are given two-step division problems, which involve dividing by 8.

Reasoning & Problem Solving







Cut out the word problems. Show any working out in your book.

1. There are **16** children in a PE lesson.
They are split equally into 8 teams for a relay race.
How many children are in each team?

There are ___ teams and ___ children in each team.

2. There are **40** flowers in a garden.
They are shared into 8 vases for a shop.
How many flowers are in each vase?

There are ___ vases and ___ flowers in each vase.

3. There are **88** pencils.
They need to be shared equally between 8 groups.

How many will be in each group?

4. Bread rolls come in packs of **8**.
There are 8 people at a picnic. They share them equally.
How many will they get each?

5. **80** children are going camping.
Tents can fit **8** people.
How many tents will the children need to take?

6. Cinema tickets cost £**8** each.
How many tickets can you get with **£16**?

7. Malachi has some ribbon.
It is **80cm** long.
He wants to divide it into 8cm pieces.
How many pieces will he have?

8. There are **24** books in the book corner.
The books need to be shared equally among 8 table groups.
How many books will each group get?

9. Leanna has **8** strawberries and shares them equally between herself and 7 friends.
How many strawberries do they get each?

10. There are **40** grapes left in the tray. The lunch time supervisors share them equally between the 8 children left in the queue.
How many grapes do the children get each?

Cut out the word problems. Show any working out in your book.

1. There are **16** children in a PE lesson.
They are split equally into 8 teams for a relay race.
How many children are in each team?

There are 8 teams and 2 children in each team.

2

2. There are 40 flowers in a garden.
They are shared into 8 vases for a shop.
How many flowers are in each vase?

There are 8 vases and 5 flowers in each vase.

5

3. There are 88 pencils.
They need to be shared equally between 8 groups.

How many will be in each group?

11

4. Bread rolls come in packs of **8**.
There are 8 people at a picnic. They share them equally.
How many will they get each?

1

5. **80** children are going camping.
Tents can fit **8** people.
How many tents will the children need to take?

10

6. Cinema tickets cost **£8** each.
How many tickets can you get with **£16**?

2

7. Malachi has some ribbon.
It is **80cm** long.
He wants to divide it into 8cm pieces.
How many pieces will he have?

10

8. There are **24** books in the book corner.
The books need to be shared equally among 8 table groups.
How many books will each group get?

3

9. Leanna has **8** strawberries and shares them equally between herself and 7 friends.
How many strawberries do they get each?

1

10. There are **40** grapes left in the tray. The lunch time supervisors share them equally between the 8 children left in the queue.
How many grapes do the children get each?

5

Cut out the word problems. Show any working out in your book.

1. There are 32 children in a PE lesson.
They are split equally into 8 teams for a relay race.
How many children are in each team?

There are ___ teams and ___ children in each team.

2. There are 72 flowers in a garden.
They are shared into 8 vases for a shop.
How many flowers are in each vase?

There are ___ vases and ___ flowers in each vase.

3. Pencils are sold in packs of 8.
Blue class needs 96 pencils.

How many packs should they order?

4. Bread rolls come in packs of 8.
Tia's uncle needs 8 rolls for a picnic.

How many packs should he buy?

5. 88 children are going camping.
Tents can fit 8 people.
How many tents will the children need to take?

6. Cinema tickets cost £8 each.
How many tickets can you get with £40?

7. Malachi has some ribbon.
It is 80cm long.
How many 8cm pieces can he cut from the ribbon?

8. There are 80 books in the book corner.
The books need to be shared equally among 8 table groups.
How many books will each group get?

9. Leanna has 8 strawberries and shares them equally between herself and 7 friends.
How many strawberries do they get each?

10. There are fifty-six grapes left in the tray. The lunch time supervisors share them equally between the 8 children left in the queue.
How many grapes do the children get each?

Cut out the word problems. Show any working out in your book.

1. There are 32 children in a PE lesson.
They are split equally into 8 teams for a relay race.
How many children are in each team?

There are 8 teams and 4 children in each team.

4

2. There are 72 flowers in a garden.
They are shared into 8 vases for a shop.
How many flowers are in each vase?

There are 8 vases and 9 flowers in each vase.

9

3. Pencils are sold in packs of 8.
Blue class needs 96 pencils.

How many packs should they order?

12

4. Bread rolls come in packs of 8.
Tia's uncle needs 8 rolls for a picnic.

How many packs should he buy?

1

5. 88 children are going camping.
Tents can fit 8 people.
How many tents will the children need to take?

11

6. Cinema tickets cost £8 each.
How many tickets can you get with £40?

5

7. Malachi has some ribbon.
It is 80cm long.
How many 8cm pieces can he cut from the ribbon?

10

8. There are 80 books in the book corner.
The books need to be shared equally among 8 table groups.
How many books will each group get?

10

9. Leanna has 8 strawberries and shares them equally between herself and 7 friends.
How many strawberries do they get each?

1

10. There are fifty-six grapes left in the tray. The lunch time supervisors share them equally between the 8 children left in the queue.
How many grapes do the children get each?

7

Cut out the word problems. Show any working out in your book.

① There are 400 children at a sports day.
They are split equally into 8 teams for a relay race.
How many children are in each team?

Two people in each team go home.
One of the teams is then equally split into 8. How many people are in this team?

② There are 720 flowers in a garden.
They are shared into 8 vases for a shop.
How many flowers are in each vase?

One vase is sold, in which 10 flowers die.
The rest of the flowers in this vase are given out in bunches of 8. How many are in each bunch?

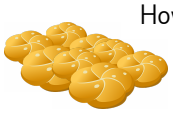
③ Pencils are sold in packs of 8.
Blue class needs 960 pencils.
How many packs should they order?

The delivery includes an extra 40 packs!

They decide to share all of the packs equally with their class and another 7 classes.
How many packs do each class receive?

④ Bread rolls come in packs of 8.
Tia's uncle needs 808 rolls for a BBQ.

How many packs should he buy?



Five packs are mouldy! He discards these and then splits the remaining packs into 8 trays.
How many packs are in each tray?

⑤ Malachi has some ribbon.
It is 800cm long.
How many 8cm pieces can he cut from the ribbon?

He already had 4 pieces of 8cm ribbons. He takes all of the pieces he had and decorates 8 rooms with them. How many pieces of ribbon is used in each room if he shared them equally?

⑥ Cinema tickets cost £8 each.
How many tickets can you get with £400?

The maximum amount of tickets have been purchased to be put in a prize draw. Two are kept aside for the owner of the competition and the rest are divided into 8 other competitions. How many tickets will each competition have available to win?

Cut out the word problems. Show any working out in your book.

1. There are 400 children at a sports day.
They are split equally into 8 teams for a relay race.
How many children are in each team?

50

Two people in each team go home.
One of the teams is then equally split into 8. How many people are in this team?

6

2. There are 720 flowers in a garden.
They are shared into 8 vases for a shop.
How many flowers are in each vase?

90

One vase is sold, in which 10 flowers die.
The rest of the flowers in this vase are given out in bunches of 8. How many are in each bunch?

10

3. Pencils are sold in packs of 8.
Blue class needs 960 pencils.
How many packs should they order?

120

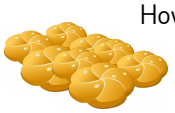
The delivery includes an extra 40 packs!

They decide to share all of the packs equally with their class and another 7 classes.
How many packs do each class receive?

20

4. Bread rolls come in packs of 8.
Tia's uncle needs 808 rolls for a BBQ.

How many packs should he buy?



101

Five packs are mouldy! He discards these and then splits the remaining packs into 8 trays.
How many packs are in each tray?

12

5. Malachi has some ribbon.
It is 800cm long.
How many 8cm pieces can he cut from the ribbon?

100

He already had 4 pieces of 8cm ribbons. He takes all of the pieces he had and decorates 8 rooms with them. How many pieces of ribbon is used in each room if he shared them equally?

13

6. Cinema tickets cost £8 each.
How many tickets can you get with £400?

50

The maximum amount of tickets have been purchased to be put in a prize draw. Two are kept aside for the owner of the competition and the rest are divided into 8 other competitions. How many tickets will each competition have available to win?

6

$32 \div 2 =$ ___

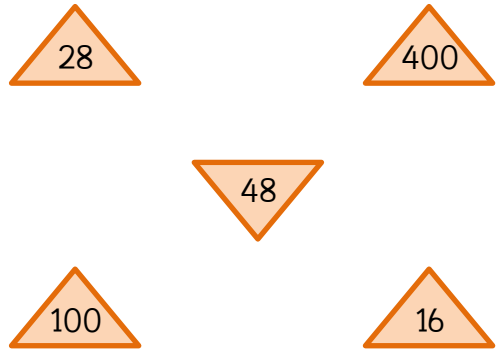
$32 \div 4 =$ ___

$32 \div 4 \div 2 =$ ___

What do you notice about the answers to these questions?

Can you predict what $32 \div 16$ would be? Explain your answer.

Which numbers can be divided by 8 without a remainder?



Write the same question with at least three different numbers and ask a friend to solve it.

Divide by 8 ☆ Reasoning & Problem Solving 3

$32 \div 2 =$ ___

$32 \div 4 =$ ___

$32 \div 4 \div 2 =$ ___

What do you notice about the answers to these questions?

Can you predict what $32 \div 16$ would be? Explain your answer.

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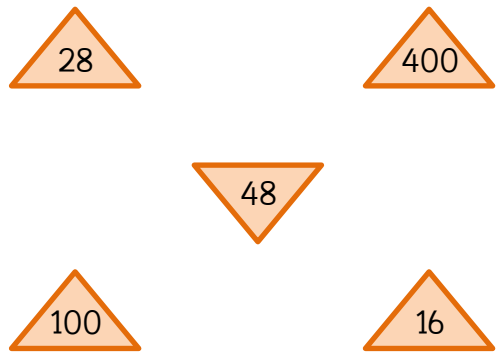

Write the same question with at least three different numbers and ask a friend to solve it.

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$32 \div 2 = 16$

$32 \div 4 = 16$

$32 \div 4 \div 2 =$ ___

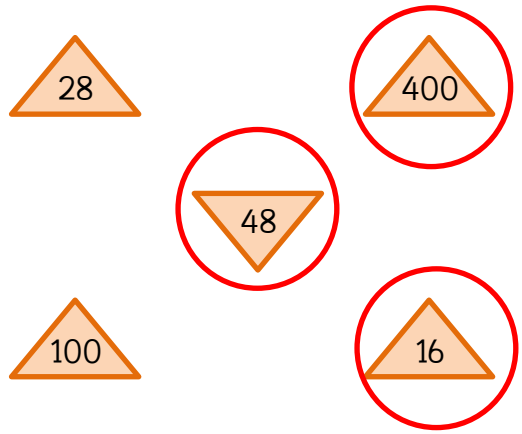
What do you notice about the answers to these questions?

The answers halve.

Can you predict what $32 \div 16$ would be? Explain your answer.

2

Which numbers can be divided by 8 without a remainder?



Write the same question with at least three different numbers and ask a friend to solve it.

Divide by 8 ☆ Answers Reasoning & Problem Solving 3

$32 \div 2 =$ ___

$32 \div 4 =$ ___

$32 \div 4 \div 2 =$ ___

What do you notice about the answers to these questions?

The answers halve.

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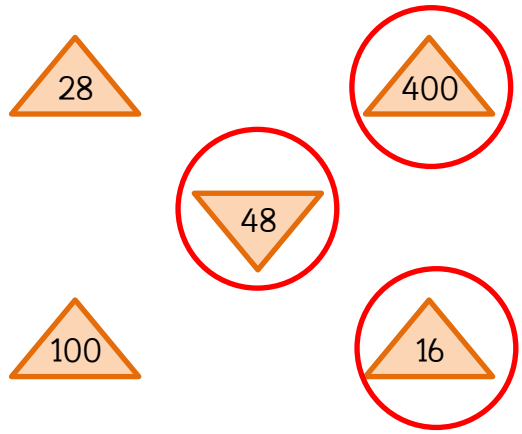
Which numbers can be divided by 8 without a remainder?



Write the same question with at least three different numbers and ask a friend to solve it.

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64 ÷ 2 = ___

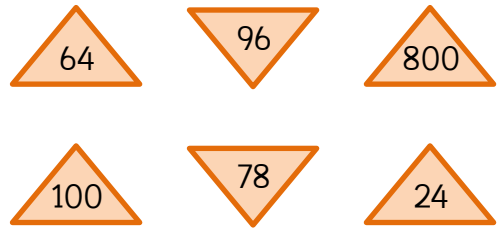
64 ÷ 4 = ___

64 ÷ 8 = ___

What do you notice about the answers to these questions?

Can you predict what 64 ÷ 16 would be? Explain your answer.

Which numbers can be divided by 8 without a remainder?



Write the same question with at least three different numbers and ask a friend to solve it.

Divide by 8 ☆☆ Reasoning & Problem Solving 3

64 ÷ 2 = ___

64 ÷ 4 = ___

64 ÷ 8 = ___

What do you notice about the answers to these questions?

Can you predict what 64 ÷ 16 would be? Explain your answer.

Which numbers can be divided by 8 without a remainder?

64
96
800
100
78
24

Write the same question with at least three different numbers and ask a friend to solve it.

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64 ÷ 2 = ___

64 ÷ 4 = ___

64 ÷ 8 = ___

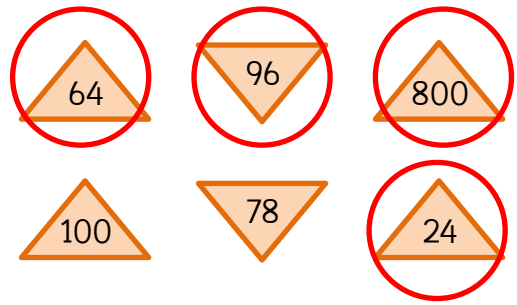
What do you notice about the answers to these questions?

The answers halve and the divisors double.

Can you predict what 64 ÷ 16 would be? Explain your answer.

4

Which numbers can be divided by 8 without a remainder?



Write the same question with at least three different numbers and ask a friend to solve it.

E.g. 32, 58, 72

Divide by 8 ☆☆ Answers Reasoning & Problem Solving 3

64 ÷ 2 = ___

64 ÷ 4 = ___

64 ÷ 8 = ___

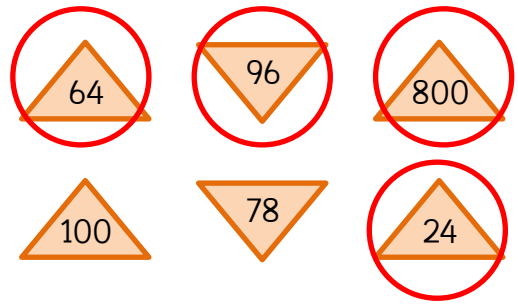
What do you notice about the answers to these questions?

The answers halve and the divisors double.

Can you predict what 64 ÷ 16 would be? Explain your answer.

4

Which numbers can be divided by 8 without a remainder?



Write the same question with at least three different numbers and ask a friend to solve it.

E.g. 32, 58, 72

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9 tens and 6 ones divided by 2 =

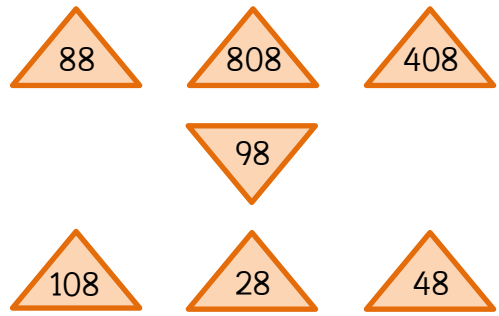
6 ones and 9 tens grouped in 4s =

4 less than 100 ÷ 8 =

What do you notice about the answers and divisors to these questions?

Can you predict what 96 ÷ 32 would be? Explain your answer.

Which numbers can be divided by 8 without a remainder?



What do you notice?

Write the same question with at least five different numbers and ask a friend to solve it.

Divide by 8 ☆☆☆ Reasoning & Problem Solving 3

9 tens and 6 ones divided by 2 =

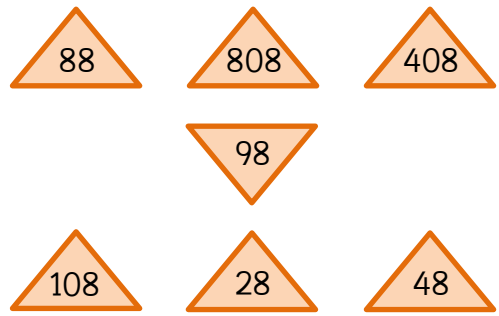
6 ones and 9 tens grouped in 4s =

4 less than 100 ÷ 8 =

What do you notice about the answers and divisors to these questions?

Can you predict what 96 ÷ 32 would be? Explain your answer.

Which numbers can be divided by 8 without a remainder?



What do you notice?

Write the same question with at least five different numbers and ask a friend to solve it.

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9 tens and 6 ones divided by 2 =

6 ones and 9 tens grouped in 4s =

4 less than 100 ÷ 8 =

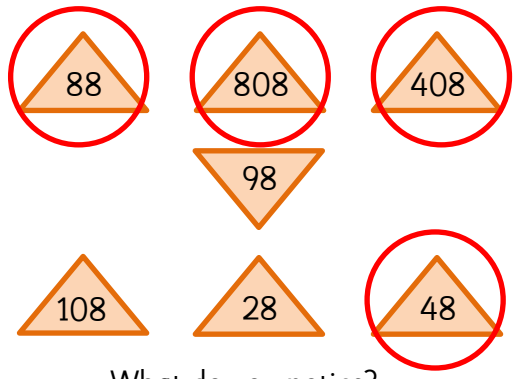
What do you notice about the answers to these questions?

The answers halve and the divisors double.

Can you predict what 96 ÷ 32 would be? Explain your answer.

The divisor (32) is 4 times greater than **8**, so we can conclude that the answer will be 4 times smaller than the answer in the last calculation (96 ÷ **8** = 12). So, it is 12 ÷ 4 = **3**.

Which numbers can be divided by 8 without a remainder?



What do you notice?

Each number ends in 8, but this is not an indication that the number is divisible by 8.

Write the same question with at least five different numbers and ask a friend to solve it.

E.g. 32, 58, 72, 208, 608

Divide by 8 ☆☆☆ Answers Reasoning & Problem Solving 3

9 tens and 6 ones divided by 2 =

6 ones and 9 tens grouped in 4s =

4 less than 100 ÷ 8 =

What do you notice about the answers to these questions?

The answers halve and the divisors double.

Can you predict what 96 ÷ 32 would be? Explain your answer.

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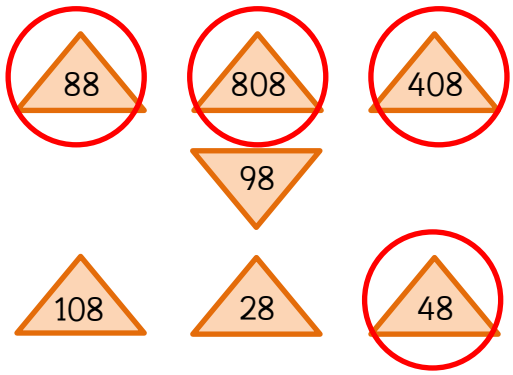

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Each number ends in 8, but this is not an indication that the number is divisible by 8.

Write the same question with at least five different numbers and ask a friend to solve it.

E.g. 32, 58, 72, 208, 608

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