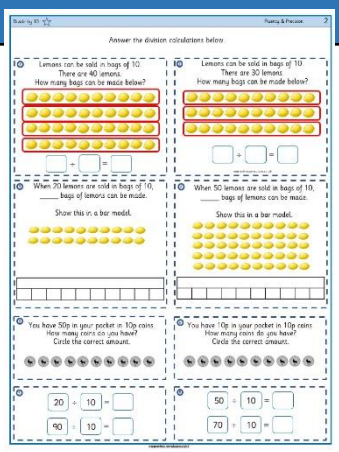
Lesson 9 – Multiplication & Division – Divide by 10

NC Objective:	Resources needed:	Vocabulary:
Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts	Differentiated Sheets Teaching Slides	Divide, grouping, sharing, equal groups, multiples, pattern

Children should already be able to multiply by 10 and recognise multiples of 10.
They will need to use both grouping and sharing to divide by 10 depending on the context of the prob lem.
Children start to see that grouping and counting in 10s is more efficient than sharing into 10 equal gr oups.

Key Questions:
What can we use to represent the problem? How does knowing your 10 times table help you to divid e by 10?
Circle all the multiples of 10 on a hundred square. What do you notice? Can you explain the pattern?
How many groups of 10 are there in ____?

★ Working Towards


Divide by 10 ☆ Fluency & Precision 2

Answer the division calculations below.

Lemons can be sold in bags of 10. There are 40 lemons. How many bags can be made below?

Lemons can be sold in bags of 10. There are 30 lemons. How many bags can be made below?

When 20 lemons are sold in bags of 10, ____ bags of lemons can be made. Show this in a bar model.

When 50 lemons are sold in bags of 10, ____ bags of lemons can be made. Show this in a bar model.

You have 50p in your pocket in 10p coins. How many coins do you have? Circle the correct amount.

You have 70p in your pocket in 10p coins. How many coins do you have? Circle the correct amount.

20 ÷ 10 = ____
90 ÷ 10 = ____
50 ÷ 10 = ____
70 ÷ 10 = ____

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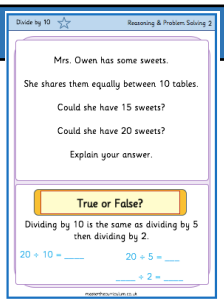
Children will need to use both grouping and sharing to divide by 10 and will start to see that grouping and counting in 10s is more efficient than sharing into 10 equal groups. Children on this sheet have visuals grouped for them and have more visuals. They have simple division calculations.


Divide by 10 ☆ Reasoning & Problem Solving 2

Mrs. Owen has some sweets.

She shares them equally between 10 tables.

Could she have 15 sweets?

Could she have 20 sweets?

Explain your answer.

True or False?

Dividing by 10 is the same as dividing by 5 then dividing by 2.

20 ÷ 10 = ____ 20 ÷ 5 = ____

____ ÷ 2 = ____

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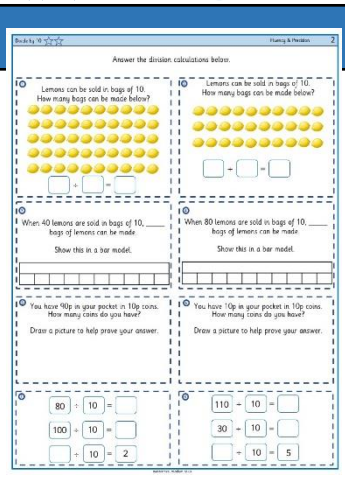
★★ Working Within


Divide by 10 ☆☆ Fluency & Precision 2

Answer the division calculations below.

Lemons can be sold in bags of 10. How many bags can be made below?

Lemons can be sold in bags of 10. How many bags can be made below?

When 40 lemons are sold in bags of 10, ____ bags of lemons can be made. Show this in a bar model.

When 80 lemons are sold in bags of 10, ____ bags of lemons can be made. Show this in a bar model.

You have 90p in your pocket in 10p coins. How many coins do you have? Draw a picture to help prove your answer.

You have 10p in your pocket in 10p coins. How many coins do you have? Draw a picture to help prove your answer.

80 ÷ 10 = ____
100 ÷ 10 = ____
____ ÷ 10 = 2

110 ÷ 10 = ____
30 ÷ 10 = ____
____ ÷ 10 = 5

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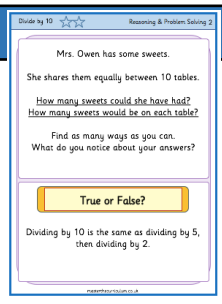
Children will need to use both grouping and sharing to divide by 10 and will start to see that grouping and counting in 10s is more efficient than sharing into 10 equal groups. Children on this sheet draw their own groups and images. They have division calculations with missing numbers.


Divide by 10 ☆☆ Reasoning & Problem Solving 2

Mrs. Owen has some sweets.

She shares them equally between 10 tables.

How many sweets could she have had? How many sweets would be on each table?

Find as many ways as you can. What do you notice about your answers?

True or False?

Dividing by 10 is the same as dividing by 5, then dividing by 2.

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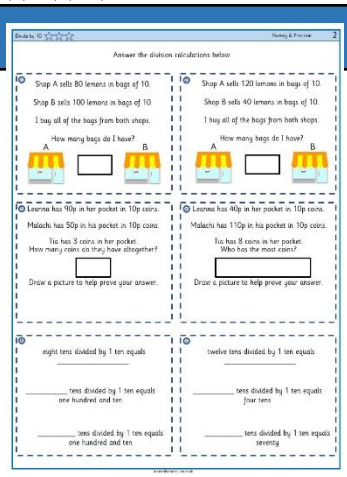
★★★ Greater Depth


Divide by 10 ☆☆☆ Fluency & Precision 2

Answer the division calculations below.

Shop A sells 80 lemons in bags of 10.
Shop B sells 100 lemons in bags of 10.
I buy all of the bags from both shops.
How many bags do I have?

Shop A sells 120 lemons in bags of 10.
Shop B sells 40 lemons in bags of 10.
I buy all of the bags from both shops.
How many bags do I have?

Leanna has 90p in her pocket in 10p coins. Malachi has 50p in his pocket in 10p coins. Tia has 3 coins in her pocket. How many coins do they have altogether? Draw a picture to help prove your answer.

Leanna has 40p in her pocket in 10p coins. Malachi has 110p in his pocket in 10p coins. Tia has 8 coins in her pocket. Who has the most coins? Draw a picture to help prove your answer.

eight tens divided by 1 ten equals ____

twelve tens divided by 1 ten equals ____

____ tens divided by 1 ten equals one hundred and ten

____ tens divided by 1 ten equals four tens

____ tens divided by 1 ten equals one hundred and ten

____ tens divided by 1 ten equals seventy

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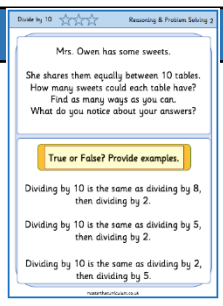
Children on this sheet are efficient in dividing by 10.
They have complex word problems and calculations to solve.


Divide by 10 ☆☆☆ Reasoning & Problem Solving 2

Mrs. Owen has some sweets.

She shares them equally between 10 tables. How many sweets could each table have? Find as many ways as you can. What do you notice about your answers?

True or False? Provide examples.

Dividing by 10 is the same as dividing by 8, then dividing by 2.

Dividing by 10 is the same as dividing by 5, then dividing by 2.

Dividing by 10 is the same as dividing by 2, then dividing by 5.

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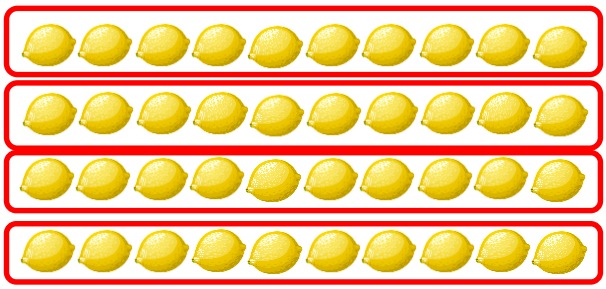
Mon 18th Jan
Maths

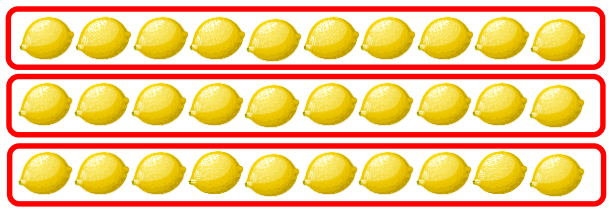
Answer the division calculations below.

1 Lemons can be sold in bags of 10.
There are 40 lemons.
How many bags can be made below?



☐ ÷ ☐ = ☐

2 Lemons can be sold in bags of 10.
There are 30 lemons.
How many bags can be made below?

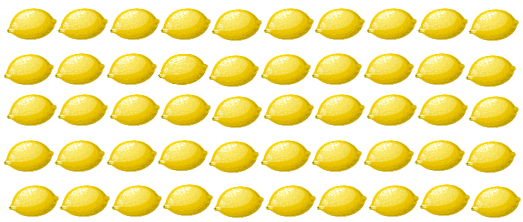


☐ ÷ ☐ = ☐

3 When 20 lemons are sold in bags of 10,
_____ bags of lemons can be made.

20 ÷ 10 = _____

4 When 50 lemons are sold in bags of 10,
_____ bags of lemons can be made.



50 ÷ 10 = _____

5 You have 50p in your pocket in 10p coins.
How many coins do you have?
Circle the correct amount.

6 You have 10p in your pocket in 10p coins.
How many coins do you have?
Circle the correct amount.

7

20 ÷ 10 = ☐

90 ÷ 10 = ☐

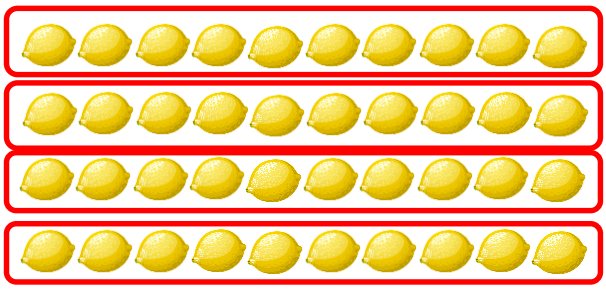
8

50 ÷ 10 = ☐

70 ÷ 10 = ☐

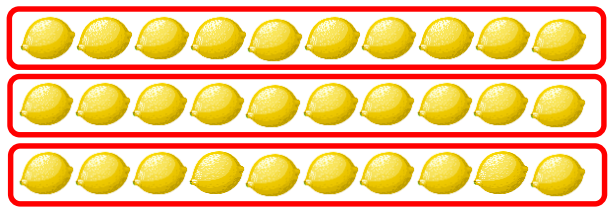
Answer the division calculations below.

1 Lemons can be sold in bags of 10.
There are 40 lemons.
How many bags can be made below?



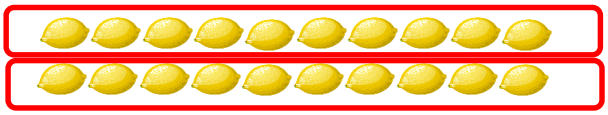
40 ÷ 10 = 4

2 Lemons can be sold in bags of 10.
There are 30 lemons.
How many bags can be made below?



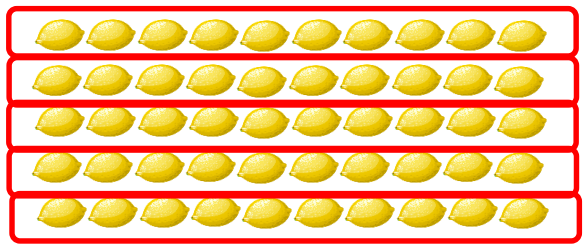
30 ÷ 10 = 3

3 When 20 lemons are sold in bags of 10,
2 bags of lemons can be made.



20 ÷ 10 = 2

4 When 50 lemons are sold in bags of 10,
5 bags of lemons can be made.



50 ÷ 10 = 5

5 You have 50p in your pocket in 10p coins.
How many coins do you have? 5
Circle the correct amount.

6 You have 10p in your pocket in 10p coins.
How many coins do you have? 1
Circle the correct amount.

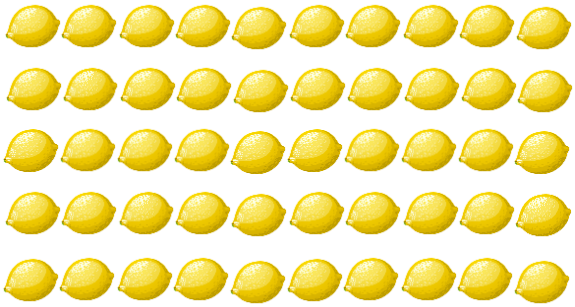
7
20 ÷ 10 = 2
90 ÷ 10 = 9

8
50 ÷ 10 = 5
70 ÷ 10 = 7

Mon 18th Jan
Maths

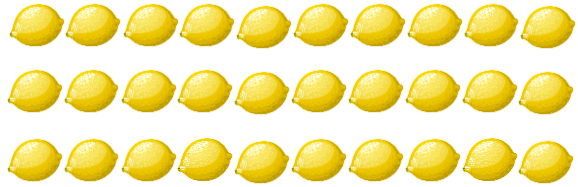
Answer the division calculations below.

1 Lemons can be sold in bags of 10.
How many bags can be made below?



☐ ÷ ☐ = ☐

2 Lemons can be sold in bags of 10.
How many bags can be made below?



☐ ÷ ☐ = ☐

3 When 40 lemons are sold in bags of 10, _____ bags of lemons can be made.

_____ ÷ _____ = _____

4 When 80 lemons are sold in bags of 10, _____ bags of lemons can be made.

_____ ÷ _____ = _____

5 You have 90p in your pocket in 10p coins.
How many coins do you have?

Draw a picture to help prove your answer.

6 You have 10p in your pocket in 10p coins.
How many coins do you have?

Draw a picture to help prove your answer.

7

80 ÷ 10 = ☐

100 ÷ 10 = ☐

☐ ÷ 10 = 2

8

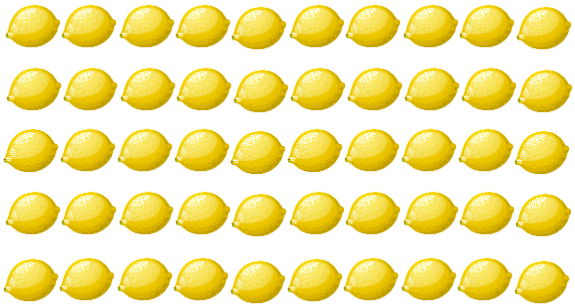
110 ÷ 10 = ☐

30 ÷ 10 = ☐

☐ ÷ 10 = 5

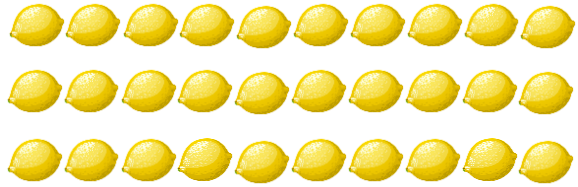
Answer the division calculations below.

1 Lemons can be sold in bags of 10.
How many bags can be made below?



50 ÷ 10 = 5

2 Lemons can be sold in bags of 10.
How many bags can be made below?



30 ÷ 10 = 3

3 When 40 lemons are sold in bags of 10, _____ bags of lemons can be made.

40 ÷ 10 = 4

4 When 80 lemons are sold in bags of 10, _____ bags of lemons can be made.

Show this in a bar model.

5 You have 90p in your pocket in 10p coins.
How many coins do you have?

Draw a picture to help prove your answer.

10p 10p 10p 10p 10p
10p 10p 10p 10p

6 You have 10p in your pocket in 10p coins.
How many coins do you have?

Draw a picture to help prove your answer.

10p

7
80 ÷ 10 = 8
100 ÷ 10 = 10
20 ÷ 10 = 2

8
110 ÷ 10 = 11
30 ÷ 10 = 3
50 ÷ 10 = 5

Mon 18th Jan
Maths

Answer the division calculations below.

1 Shop A sells 80 lemons in bags of 10.

Shop B sells 100 lemons in bags of 10.

I buy all of the bags from both shops.

How many bags do I have?

A  B 

2 Shop A sells 120 lemons in bags of 10.

Shop B sells 40 lemons in bags of 10.

I buy all of the bags from both shops.

How many bags do I have?

A  B 

3 Leanna has 90p in her pocket in 10p coins.

Malachi has 50p in his pocket in 10p coins.

Tia has 3 coins in her pocket.
How many coins do they have altogether?

Draw a picture to help prove your answer.

4 Leanna has 40p in her pocket in 10p coins.

Malachi has 110p in his pocket in 10p coins.

Tia has 8 coins in her pocket.
Who has the most coins?

Draw a picture to help prove your answer.

5 eight tens divided by 1 ten equals _____

_____ tens divided by 1 ten equals seven ones

_____ tens divided by 6 equals 10

6 twelve tens divided by 1 ten equals _____

_____ tens divided by 1 ten equals four ones

_____ tens divided by 2 equals 10

Answer the division calculations below.

1 Shop A sells 80 lemons in bags of 10. 8

Shop B sells 100 lemons in bags of 10. 10

I buy all of the bags from both shops.

How many bags do I have?

A  18 B 

2 Shop A sells 120 lemons in bags of 10. 12

Shop B sells 40 lemons in bags of 10. 4

I buy all of the bags from both shops.

How many bags do I have?

A  16 B 

3 Leanna has 90p in her pocket in 10p coins. 9 coins

Malachi has 50p in his pocket in 10p coins. 5 coins

Tia has 3 coins in her pocket.
How many coins do they have altogether?

17

Draw a picture to help prove your answer.

4 Leanna has 40p in her pocket in 10p coins. 4 coins

Malachi has 110p in his pocket in 10p coins. 11 coins

Tia has 8 coins in her pocket.
Who has the most coins?

Malachi

Draw a picture to help prove your answer.

5 eight tens divided by 1 ten equals _____eight_____

___seven___ tens divided by 1 ten equals seven ones

_____six_____ tens divided by 6 equals 10

6 twelve tens divided by 1 ten equals _____twelve_____

_____four_____ tens divided by 1 ten equals four ones

_____two_____ tens divided by 2 equals 10

Mrs. Owen has some sweets.

She shares them equally between 10 tables.

Could she have 15 sweets?

Could she have 20 sweets?

Explain your answer.

True or False?

Dividing by 10 is the same as dividing by 5 then dividing by 2.

20 ÷ 10 = _____ 20 ÷ 5 = ___

_____ ÷ 2 = _____

Divide by 10 ☆ Reasoning & Problem Solving 2

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Divide by 10 ☆ Reasoning & Problem Solving 2

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True or False?

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20 ÷ 10 = _____ 20 ÷ 5 = ___

_____ ÷ 2 = _____

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Answers

Mrs. Owen has some sweets.

She shares them equally between 10 tables.

Could she have 15 sweets? No

Could she have 20 sweets? No

Explain your answer.

She has to have a number that is a multiple of 10 because she shares them equally between 10 tables.

True or False?

Dividing by 10 is the same as dividing by 5 then dividing by 2.

20 ÷ 10 = 2

20 ÷ 5 = 4

True.

4 ÷ 2 = 2

Divide by 10 ☆ Reasoning & Problem Solving 2

Answers

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Could she have 15 sweets? No

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Divide by 10 ☆ Reasoning & Problem Solving 2

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Divide by 10 ☆ Reasoning & Problem Solving 2

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Explain your answer.

She has to have a number that is a multiple of 10 because she shares them equally between 10 tables.

True or False?

Dividing by 10 is the same as dividing by 5 then dividing by 2.

20 ÷ 10 = 2

20 ÷ 5 = 4

True.

4 ÷ 2 = 2

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Mrs. Owen has some sweets.

She shares them equally between 10 tables.

<u>How many sweets could she have had? How many sweets would be on each table?</u>

Find as many ways as you can.
What do you notice about your answers?

True or False?

Dividing by 10 is the same as dividing by 5, then dividing by 2.

Divide by 10 Reasoning & Problem Solving 2

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Divide by 10 Reasoning & Problem Solving 2

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What do you notice about your answers?

True or False?

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Mrs. Owen has some sweets.
She shares them equally between 10 tables.
<u>How many sweets could she have had?</u>
<u>How many sweets would be on each table?</u>
Find as many ways as you can.
What do you notice about your answers?

She could have:
30 sweets, there would be 3 on each table.
30 ÷ 10 = 3
Continues with calculations such as:
40 ÷ 10 = 4, 50 ÷ 10 = 5,
60 ÷ 10 = 6, 70 ÷ 10 = 7

True or False?

Dividing by 10 is the same as dividing by 5, then dividing by 2.

True.

Divide by 10 Answers Reasoning & Problem Solving 2

Mrs. Owen has some sweets.
She shares them equally between 10 tables.
How many sweets could she have had?
How many sweets would be on each table?
Find as many ways as you can.
What do you notice about your answers?

She could have:
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Divide by 10 Answers Reasoning & Problem Solving 2

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How many sweets could she have had?
How many sweets would be on each table?
Find as many ways as you can.
What do you notice about your answers?

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Continues with calculations such as:
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Divide by 10 Answers Reasoning & Problem Solving 2

Mrs. Owen has some sweets.
She shares them equally between 10 tables.
How many sweets could she have had?
How many sweets would be on each table?
Find as many ways as you can.
What do you notice about your answers?

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30 sweets, there would be 3 on each table.
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Continues with calculations such as:
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True or False?

Dividing by 10 is the same as dividing by 5, then dividing by 2.

True.

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Mrs. Owen has some sweets.

She shares them equally between 10 tables.
How many sweets could each table have?
Find as many ways as you can.
What do you notice about your answers?

True or False? Provide examples.

Dividing by 10 is the same as dividing by 8, then dividing by 2.

Dividing by 10 is the same as dividing by 5, then dividing by 2.

Dividing by 10 is the same as dividing by 2, then dividing by 5.

Divide by 10 Reasoning & Problem Solving 2

Mrs. Owen has some sweets.

She shares them equally between 10 tables.
How many sweets could each table have?
Find as many ways as you can.
What do you notice about your answers?

True or False? Provide examples.

Dividing by 10 is the same as dividing by 8, then dividing by 2.

Dividing by 10 is the same as dividing by 5, then dividing by 2.

Dividing by 10 is the same as dividing by 2, then dividing by 5.

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Divide by 10 Reasoning & Problem Solving 2

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How many sweets could each table have?
Find as many ways as you can.
What do you notice about your answers?

True or False? Provide examples.

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Dividing by 10 is the same as dividing by 2, then dividing by 5.

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Divide by 10 Reasoning & Problem Solving 2

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She shares them equally between 10 tables.
How many sweets could each table have?
Find as many ways as you can.
What do you notice about your answers?

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Dividing by 10 is the same as dividing by 8, then dividing by 2.

Dividing by 10 is the same as dividing by 5, then dividing by 2.

Dividing by 10 is the same as dividing by 2, then dividing by 5.

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Mrs. Owen has some sweets.

She shares them equally between 10 tables.
How many sweets could each table have?
Find as many ways as you can.

What do you notice about your answers?

True or False? Provide examples.

Dividing by 10 is the same as dividing by 8, then dividing by 2.

Dividing by 10 is the same as dividing by 5, then dividing by 2.

Dividing by 10 is the same as dividing by 5, then dividing by 2.

Answers

She could have:
30 sweets, there would be 3 on each table.
30 ÷ 10 = 3
Continues with calculations such as:
40 ÷ 10 = 4, 50 ÷ 10 = 5,
60 ÷ 10 = 6, 70 ÷ 10 = 7
The tens digit is the same as the answer.

False:
40 ÷ 10 = 4
40 ÷ 8 = 5
5 ÷ 2 = 2 and 1 left over (2 ½)

True:
40 ÷ 10 = 4
40 ÷ 5 = 8
8 ÷ 2 = 4

True:
40 ÷ 10 = 4
40 ÷ 2 = 20
20 ÷ 5 = 4

Divide by 10 Reasoning & Problem Solving 2g

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