Lesson 1 - WALT: assess our knowledge of place value

Lesson 2 WALT: find multiples and factors of whole numbers

Lesson 3 WALT apply our multiplication knowledge to a written method.

Lesson 4 WALT divide numbers within a written method.

Lesson 5 WALT recap our multiplication and divisin knowledge.

pid Grasper
ws where our GD start.

R.G.

WEEK 14 - MATHS

Marking Priorit
Best work to indepth mark

Lesson 1

Today, we are going to assess our knowledge of place value.

15 ipads are needed per class.

15 do the assessment while the others complete the reasoning. Then switch

Lesson 1

WALT: assess our knowledge of place value

Go to the Chesswood website then go to learning, curriculum, maths, in school maths assessments

Go to year 4 and click on the link above 4NPV3 then wait for your teacher.

We are going to stop after 10 minutes no matter where you are! Just try your best

Then go to year 5 and click on the link above 5NPV3 then wait for your teacher.

We are going to stop after 10 minutes no matter where you are! Just try your best

WALT: assess our knowledge of place value

Now we are going to practice our reasoning

WALT: assess our knowledge of place value

I DO

Agree or Disagree?

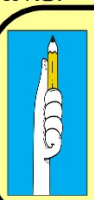
569 always rounds to a bigger number because each digit is 5 or more

Metacognition

Working out box:

Understand - what is the question asking us?

Reflect - what maths knowledge do I already have?



Draw it - bar model, part/whole. number line....

WALT: assess our knowledge of place value

DO

Which Answer?

What is 403 to the nearest 10?

The nearest 10 is 400

But 400 is not a 10, the nearest 10 is 410

Working out box:

Meta

Understand - what is the question asking us?

Reflect - what maths knowledge do I already have?

Draw it - bar model, part/whole, number line...

Order

In each number, how many zeros?

Fifty-six thousand and twenty

Three hundred thousand, two hundred and seventy

Thirteen thousand and thirty-one

Spot the Pattern

Fill the gaps:

☐, 764, 774, 784, ☐, ☐

963, ☐, 983, ☐, ☐

☐, 1206, 1106, ☐, ☐

Extend: *Design a sequence question with missing numbers.*

Agree or Disagree?

140 is more than 80 as it has more digits

0.14 is more than 0.8 as it has more digits

Agree or Disagree?

Jen thinks of a 2-digit number. The sum of its digits is 7.

Molly thinks of a 2-digit number. The sum of its digits is 15.

Jen's number might be larger than Molly's number

Example: *The sum of the digits for 35 is 8*

3 + 5 = 8

Different Ways

Ways to calculate 24 × 8:

☐ less than 25 × 8

☐ less than 24 × 10

Double ☐ × ☐

Which Answer?

275 + 165 = ☐ – 45

395

440

485

Explain the mistakes.

Agree or Disagree?

☐ + ☐ = ☐ – ☐

The smallest number must be the number in the red box

The number in the green box is equal to the sum of the numbers in the blue, purple and red boxes

Reas

YOU

Lesson 2

WALT: find multiples and factors of whole numbers

Lesson 2

WALT: find multiples and factors of whole numbers

Today we are focusing on multiples and factos.

Can you tell me what our key vocabulary means|?

Vocabulary

factors
multiples
commutative
whole numbers
product

WALT: find multiples and factors of whole numbers

Lets start with understanding what commutative means

Commutative is the rule that we have in multiplication that shows us that you can have your factors in any order and it won't change the product.

For example:

$2 \times 3 = 6 \qquad 3 \times 2 = 6$

"2 groups of 3 is equal to 6."

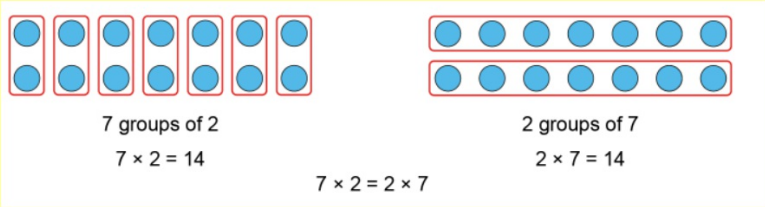
"3, two times is equal to 6."

"2 groups of 3 is equal to 3, two times."

WALT: find multiples and factors of whole numbers

Another example:

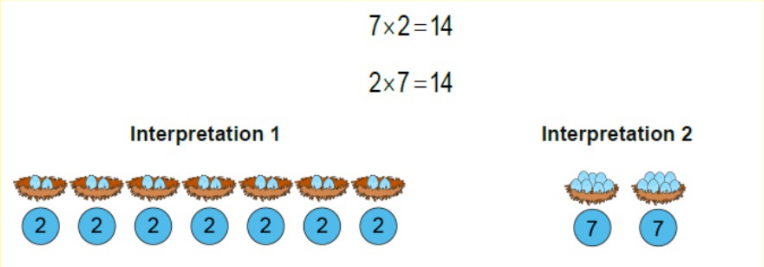
7 X 2 = 14



"2 groups of 7 is equal to 14."

"7 groups of 2 is equal to 14."

"2 groups of 7 is equal to 7 groups of 2."



"factor times factor is equal to product"

"The order of the factors does not alter the product."

WALT: find multiples and factors of whole numbers

A multiple of a given number is the product of the given number and any whole number.

✱ your multiplicaton tables

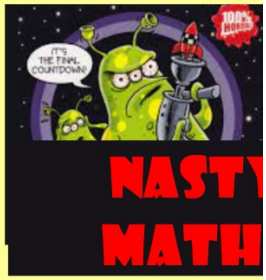
21 is a multiple of 3

A factor of given number is a whole number that the given number can be divided by without giving a remainder.

factor X factor = product

3 is a factor of 21

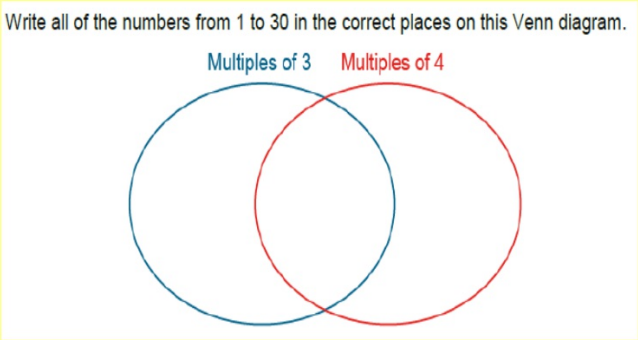
WALT: find multiples and factors of whole numbers



Challenge:

Write down all of the factors of 24 and 30

Mega challenge:



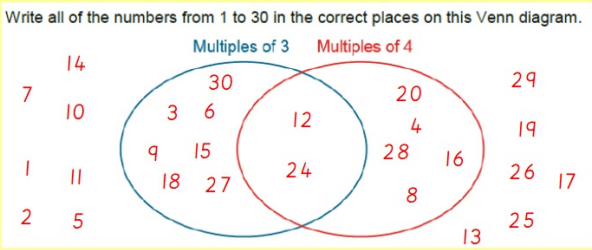
Challenge:

Write down all of the factors of 24 and 30

24 = 1,2,3,4,6,8,12,24

30 = 1,2,3,5,6,10,15,30

Mega challenge:



If you correctly answered <u>all</u> of the mega challenge question, move on to the class questions.

If you did not answer <u>all</u> the mega challenge correctly. stay with me to learn more.

Class questions - see next slide!

REASON AND PEER MARK FOR EVERY QUESTION!

WALT: find multiples and factors of whole numbers

Multiples

15 minutes

Set A

Write out the first four multiples of each number below:

1. 3
2. 4
3. 5
4. 10
5. 50
6. 100

Which of the numbers in each box are a multiple of:

7. 2? | 15 | 18 | 22 | 25 |
8. 3? | 18 | 23 | 30 | 46 |
9. 4? | 14 | 20 | 38 | 44 |
10. 10? | 60 | 71 | 88 | 100 |
11. 11? | 33 | 50 | 74 | 99 |

Are the following true or false?

12. 56 is a multiple of 8.
13. 29 is a multiple of 3.
14. 54 is a multiple of 5.
15. 32 is a multiple of 4.
16. 60 is a multiple of 6.
17. 26 is a multiple of 7.

Set B

Write out the first five multiples of each number below:

1. 7
2. 9
3. 12
4. 25
5. 30
6. 250

Look at the numbers in this box:

36	42	56	60	54	63
85	77	121	72	80	96

Which of these numbers are multiples of:

7. 4?
8. 8?
9. 9?

Are the following true or false?

10. All multiples of 2 end in an even number.
11. There are 4 multiples of 10 between 80 and 100.
12. 32 is a multiple of 5.
13. All multiples of 3 end in 3, 6 or 9.

Set C

Write out the first six multiples of each number below:

1. 6
2. 20
3. 1000
4. 110
5. 45
6. 22

Find the missing digit to complete the sentences below:

7. 5☐ is a multiple of 7.
8. 6☐ is a multiple of 8.
9. 8☐ is a multiple of 9.
10. 12☐ is a multiple of 10.
11. 8☐ is a multiple of 11.
12. 1☐8 is a multiple of 12.

Are the following true or false?

13. All multiples of 5 end in 0 or 5.
14. Multiples of 4 are always even numbers.
15. 675 is a multiple of 25.
16. All multiples of 3 are also multiples of 9.

Flu

WALT: find multiples and factors of whole numbers

Page 43: Multiples

Set A

1. 3, 6, 9, 12
2. 4, 8, 12, 16
3. 5, 10, 15, 20
4. 10, 20, 30, 40
5. 50, 100, 150, 200
6. 100, 200, 300, 400
7. 18, 22
8. 18, 30
9. 20, 44
10. 60, 100
11. 33, 99
12. True
13. False
14. False
15. True
16. True
17. False

Set B

1. 7, 14, 21, 28, 35
2. 9, 18, 27, 36, 45
3. 12, 24, 36, 48, 60
4. 25, 50, 75, 100, 125
5. 30, 60, 90, 120, 150
6. 250, 500, 750, 1000, 1250
7. 36, 56, 60, 72, 80, 96
8. 56, 72, 80, 96
9. 36, 54, 63, 72
10. True
11. False
12. False
13. False

Set C

1. 6, 12, 18, 24, 30, 36
2. 20, 40, 60, 80, 100, 120
3. 1000, 2000, 3000, 4000, 5000, 6000
4. 110, 220, 330, 440, 550, 660
5. 45, 90, 135, 180, 225, 270
6. 22, 44, 66, 88, 110, 132
7. 6
8. 4
9. 1
10. 0
11. 8
12. 0
13. True
14. True
15. True
16. False

Flu

WALT: find multiples and factors of whole numbers

Factors

15 minutes

Set A

The boxes show the factors of each number. Find the missing factors.

1. 6 | 1 2 ? 6 |
2. 8 | 1 ? 4 8 |
3. 10 | 1 2 ? 10 |
4. 14 | 1 2 7 ? |
5. 15 | 1 3 ? 15 |

Find the missing values to give all the factor pairs of 28:

6. 1 × ☐ = 28
7. 2 × ☐ = 28
8. 4 × ☐ = 28

Find the missing factors:

9. ☐ × ☐ = 13

The box shows the factors of 30.

1	2	3	5
6	10	15	30

Which of these numbers are also factors of:

11. 33?
12. 50?

Set B

The boxes show the factors of each number. Find the missing factors.

1. 12 | 1 2 3 4 ? 12 |
2. 16 | 1 2 ? 8 16 |
3. 18 | 1 2 ? 6 9 18 |
4. 20 | 1 2 ? ? 10 20 |
5. 81 | 1 3 ? 27 81 |

Find the missing values to give all the factor pairs of 48:

6. 1 × ☐ = 48
7. 2 × ☐ = 48
8. 3 × ☐ = 48
9. 4 × ☐ = 48
10. 6 × ☐ = 48
11. Find the common factors

Look at the numbers in the box.

2	4	5	7
8	9	10	

Find two numbers that are common factors of:

12. 35 and 70
13. 54 and 18
14. 42 and 56

Set C

Find the factors of these numbers:

1. 36
2. 33
3. 40
4. 24
5. 27

Which has more factors:

6. 42 or 28?
7. 18 or 21? What are their common factors?
8. 30 or 45? What are their common factors?

Find all the common factors of each pair of numbers below:

9. 18 and 12
10. 48 and 36
11. 28 and 24
12. 35 and 70
13. 32 and 16

WALT: find multiples and factors of whole numbers

Page 44: Factors

Set A

1. 3
2. 2
3. 5
4. 14
5. 5
6. 28
7. 14
8. 7
9. 1 × 13
10. 1 × 11
11. 1, 3
12. 1, 2, 5, 10
13. 1, 2, 3, 6

Set B

1. 6
2. 4
3. 3
4. 4, 5
5. 9
6. 48
7. 24
8. 16
9. 12
10. 8
11. 1, 2, 3, 4, 6, 12
12. 5, 7
13. 2, 9
14. 2, 7

Set C

1. 1, 2, 3, 4, 6, 9, 12, 18, 36
2. 1, 3, 11, 33
3. 1, 2, 4, 5, 8, 10, 20, 40
4. 1, 2, 3, 4, 6, 8, 12, 24
5. 1, 3, 9, 27
6. 42 has more factors than 28.
7. 18 has more factors than 21. The common factors of 18 and 21 are 1 and 3.
8. 30 has more factors than 45. The common factors of 30 and 45 are 1, 3, 5 and 15.
9. 1, 2, 3, 6
10. 1, 2, 3, 4, 6, 12
11. 1, 2, 4
12. 1, 5, 7, 35
13. 1, 2, 4, 8, 16

Flu

WALT: find multiples and factors of whole numbers

I DO

Scott's age is a multiple of 8 and 12

His age is one away from a multiple of 7

He is younger than 50 years old.

How old is Scott?

Working out box:

Metacognition

Understand - what is the question asking us?

Reflect - what maths knowledge do I already have?

Draw it - bar model, part/whole number line....

WALT: find multiples and factors of whole numbers

WE DO

Is this statement always, sometimes or never true?

A number will always have an even number of factors because factors come in factor pairs.

Working out box:

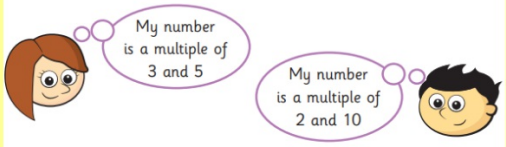
Meta

Understand - what is the question asking us?

Reflect - what maths knowledge do I already have?

Draw it - bar model, part/whole. number line...

Rosie and Jack are each thinking of a number.



Could they be thinking of the same number? _____

Explain your answer.

_____

_____

Which number has the most factors? Tick your answer.

64	48

45kg of animal feed is shared between some horses. They each get 5kg. How many horses were there?

Which number is the odd one out?

Tick your answer.

8	56	6	16

Is this statement always, sometimes or never true?

A number will always have an even number of factors because factors come in factor pairs.

1m 40cm of ribbon was cut into equal pieces. Each piece is 14cm long. How many pieces of ribbon are there?

Fill in the missing numbers.

$\square \div 20 = 5$ $\quad$ $3{,}000 \div \square = 250$ $\quad$ $\square \times 100 = 5{,}400$

Plenary:

The product of two consecutive numbers is always the multiple of an odd number.

[redacted]

Day 3

WALT apply our multiplication knowledge to a written method.

WALT apply our multiplication knowledge to a written method.

Calculation at Chesswood **Multiplication 7**

Compact Column - Short

Use squared paper to write the numbers in columns.

I can calculate mentally and use carrying.
I must start with the ones.

```
    5 6
×     7
  3 9 2
    4
```

(6 x 7 = 42)
(50 x 7 = 350)

Year 4 GD
Year 5

56 x 7 = 392

We are going to be focusing on our written methods for multiplication

Calculation at Chesswood **Multiplication 8**

Compact Column - Long

Use squared paper to write the numbers in columns.

I can calculate mentally and use carrying with larger numbers.

```
      5 6
×     2 7
    3 9 2     (56 x  7)
      4
+ 1 1 2 0     (56 x 20)
    1
  1 5 1 2
```

Year 5 GD
Year 6

56 x 27 = 1512

WALT apply our multiplication knowledge to a written method.

Challenge:

$278 \times 6 = \square$

$\square = 7 \times 1{,}297$

Mega challenge:

$$\begin{array}{r} \square\,1\;6 \\ \times \qquad \square \\ \hline 2,8\;6\;4 \\ \hline 2 \end{array}$$

$$\begin{array}{r} \square\,5\,\square\,7 \\ \times \qquad 4 \\ \hline 6,1\;0\;8 \\ \hline 2\;1\;2 \end{array}$$

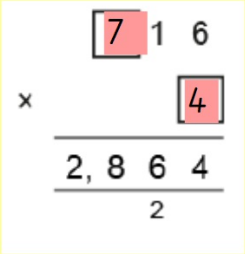
WALT apply our multiplication knowledge to a written method.

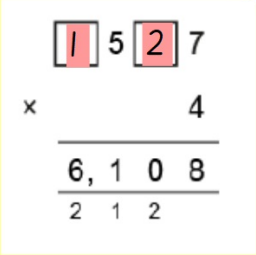
Challenge:

$278 \times 6 = 1,668$

$9,079 = 7 \times 1,297$

Mega Challenge:





If you correctly answered all of the mega challenge question, move on to the class questions.

If you did not answer all the mega challenge correctly, stay with me to learn more.

WALT apply our multiplication knowledge to a written method.

A

Copy and complete.

1. 49 × 2
2. 36 × 6
3. 83 × 5
4. 67 × 4
5. 25 × 9
6. 58 × 3
7. 167 × 5
8. 472 × 7
9. 357 × 2
10. 839 × 4
11. 156 × 8
12. 674 × 3
13. Each bar of chocolate weighs 157 g. How much do six bars weigh?
14. Including the spare, cars need five tyres. How many tyres are needed for 294 new cars?

B

Copy and complete.

1. 295 × 6
2. 429 × 4
3. 873 × 9
4. 364 × 7
5. 748 × 8
6. 657 × 5
7. 1962 × 9
8. 4896 × 12
9. 1738 × 7
10. 2589 × 3
11. 3975 × 11
12. 5967 × 6
13. A theatre has 259 seats. All seven performances of a play are sold out. How many tickets have been sold?
14. A plane flies 1468 km. Its next flight is nine times longer. How far is that flight?
15. Each packet of paper has 436 sheets. How many sheets are there in eight packets?

C

Work out.

1. 31 654 × 9
2. 16 578 × 2
3. 46 839 × 8
4. 25 479 × 5
5. 30 864 × 6
6. 29 853 × 7
7. 18 647 × 3
8. 60 742 × 8
9. 41 728 × 6
10. 26 387 × 4
11. 24 796 × 9
12. 57 069 × 7
13. There are eight biscuits in each packet. How many biscuits are there in 12 937 packets?
14. To prevent flooding 40 582 sand bags are used. Each bag holds 9 kg of sand. How much sand is used altogether?
15. A clothing manufacturer makes £6 profit on every coat sold. How much profit is made if 29 156 coats are sold?

If you get 5 correct in a row then move on.

If you feel confident, start at number 10 then move on.

Check your answers with the person next to you or with a calculator.

Fluency

Reasoning

Now we've spent some time practising the skills...

...we can start to use them.

I DO

WALT apply our multiplication knowledge to a written method.

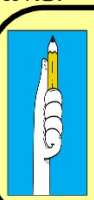
Metacognition

A factory packs biscuits into boxes of 9. The factory produces 1,350 packets of biscuits in a day. How many biscuits is that?

Working out box:

Understand - what is the question asking us?

Reflect - what maths knowledge do I already have?



Draw it - bar model, part/whole. number line....

I know… so…

24 × 18 = 432

24 × 19 = ☐

30 × 15 = 450

40 × 15 = ☐

35 × 12 = 420

38 × 12 = ☐

Different Ways

Ways to calculate 24 × 8:

☐ **less than 25 × 8**

☐ **less than 24 × 10**

Double ☐ **×** ☐

Explain the Mistakes

```
  2 6 1
  ×   4
-------
  8 2 4 4
```

```
  4 1 7
  ×   5
-------
  2 0 5 5
    3
```

```
  8 4 3
  ×   6
-------
  4 4 5 8
  2 1
```

Estimation

89 × 43

The answer will be **odd/even.**

90 × 40 = 3600 **90 × 50 = 4500**

Estimation for **89 × 43 is** ☐

Estimation

584 × 9

The answer will be **odd/even.**

500 × 9 = 4500 **600 × 9 = 5400**

Estimate for **584 × 9 is** ☐

Part-Complete Examples

```
    6 3
  × 5 3
-------
    1 8 9
  ☐☐ 5 0
    1
-------
  ☐☐☐ 9
```

```
    2 4
  × 1 6
-------
  ☐☐ 4
  2 4 ☐
    2
-------
  ☐☐☐
```

```
    8 1
  × 4 6
-------
    4 8 6
  ☐☐☐☐
-------
  3 ☐☐☐
```

Lesson 4

WALT divide numbers within a written method.

WALT divide numbers within a written method.

Calculation at Chesswood

Division 6

Compact Method - Short

Use squared paper to help write in the place value columns.

Always start dividing from the largest value digit (2 = 200)

256 ÷ 7 =
I must remember to calculate one digit at a time!

```
      0 3 6 r4
7 | 2²5⁴6
```

2 ÷ 7 = 0 r2
25 ÷ 7 = 3 r4
46 ÷ 7 = 6 r4

(Write the remainder next to the digit in the place value column to the right.)

256 ÷ 7 = 36 r4

Year 4 GD
Year 5

WALT divide numbers within a written method.

Challenge:

Mega challenge:

Challenge: Mega Challenge:

If you correctly answered all of the mega challenge question, move on to the class questions.

If you did not answer all the mega challenge correctly, stay with me to learn more.

WALT divide numbers within a written method.

WALT divide numbers within a written method.

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WALT divide numbers within a written method.

WALT divide numbers within a written method.

Lesson 5

WALT: evaluate our recent learning

WALT: evaluate our recent learning

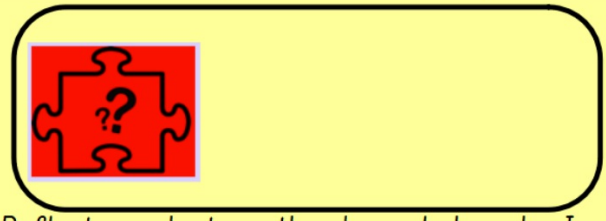
Today, we are going to evaluate our learnin
of the following maths topics:

-Factors and multiples
- metric measures
- multiply and divide by 10s and 100s
- scaling number facts
- using decimals

WALT: evaluate our recent learning

Key information for each:

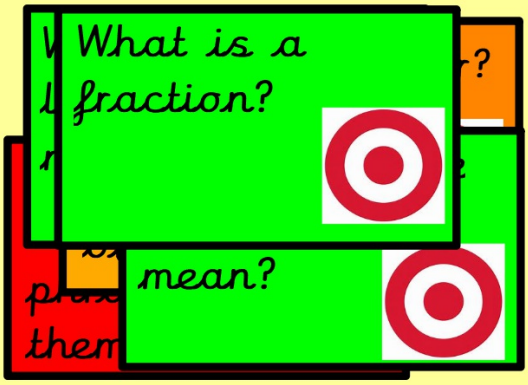
Factors /multiples	Metric Measures	x/÷ 10, 100 1000	scaling number facts	decimals



Reflect - what maths knowledge do I already have?

Understand

Communicate

Reflect

Pick a card.
Any card!