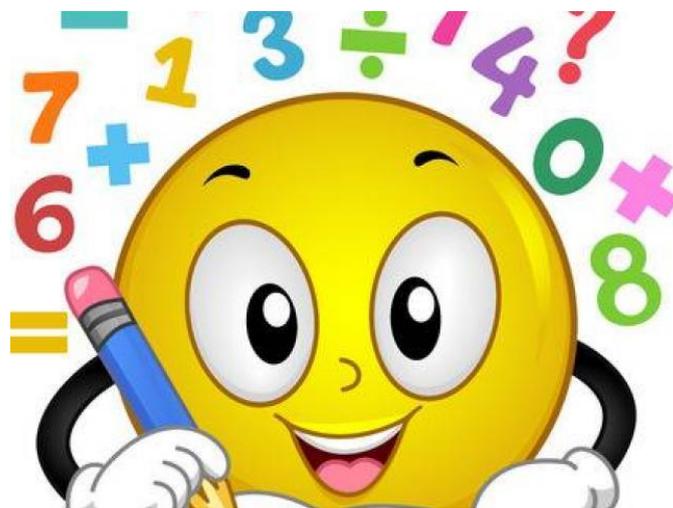


Division day 2:

Today we are going to continue to build on our knowledge of multiplication and division. Today we are going to use our knowledge on the 4 timestables to help us. Once again it may be useful to draw pictures or use objects around your house to help you work out the answers.

Before we start...

Spend 5-10 minutes revising your 4 timestables. You could say them out loud or write them on a piece of paper, you could even try mixing up the order!



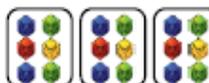
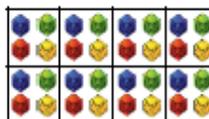
Challenge 1: Multiplying by 4

Match the multiplication to the representation.

8×4

4×4

4×6



How many dots are there altogether?



There are ___ dice with ___ dots on each.

There ___ fours.

___ \times ___ = ___ dots.

There are 4 pens in a pack.
How many pens are there in 7 packs?

Key questions:

How many equal groups do we have?

How many are in each group?

How many do we have altogether?

Can you write a number sentence to show this?

Can you represent the problem in a picture or using objects?

How many lots of 4 do we have?



Challenge 2: Dividing by 4

Now we are going to explore dividing by 4 by sharing into 4 groups and grouping in 4's. Use your knowledge on inverse and videos from yesterday to help you.

-  Circle the buttons in groups of 4.

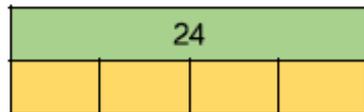


Can you also split the buttons into 4 equal groups?
How is this the same? How is it different?

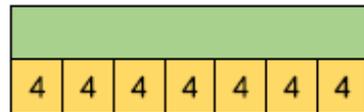
-  There are some cars in a car park.
Each car has 4 wheels.
In the car park there are 32 wheels altogether.
How many cars are there?

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

-  Complete the bar models and the calculations.



$$24 \div 4 = \underline{\quad}$$



$$\underline{\quad} \div 4 = \underline{\quad}$$

Can you group the numbers in 4's?

Can you share the numbers into 4 equal groups?

Challenge 3

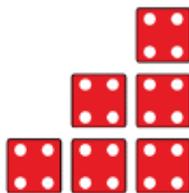
Now we are going to use our knowledge of multiplying and dividing by 4 to answer the following questions. (You will also need to use your other timestables to help you with this challenge!)

Use the pictorial representations to complete the calculations.

$4 = 1 \times 4 = \underline{\quad}$

$4 + 4 = 2 \times 4 = \underline{\quad}$

$4 + 4 + 4 = 3 \times 4 = \underline{\quad}$



Continue the pattern.

2 cars have eight wheels. How many wheels do four cars have?

$2 \times 4 = 8 \quad 4 \times 4 = \underline{\quad}$

Three cows have 12 legs. How many legs do six cows have?

$3 \times \underline{\quad} = 12 \quad 6 \times \underline{\quad} = \underline{\quad}$

Can you use pictures or objects to help you?

What other facts can you link to this one?

What other timestables could you use to help you with this question?

Print or recreate the following number square.

Colour in the multiples of 4. What do you notice?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Challenge 4: Word problems!

Now use your knowledge on dividing by 4 and multiplying by 4 to solve these word problems.

Remember if we know that $3 \times 4 = 12$ so we know that $4 \times 3 = 12$. Always show your working!



Question 1:

Gavin has four bags. There are five sweets in each bag.

Stacy has six bags. There are four sweets in each bag.

Who has the most sweets?

How do you know? Prove it!

How many more sweets do they have?



Question 2:

Ruby

I have forgotten what 4×4 is.



Her friends try to help her.

Saffi says,

"The answer is more than 3×4 "

a. Complete the calculation to prove this.
 $4 \times 4 = _ \times 4 + _ = _$

Izzy says,

"The answer is 4 less than 5×4 "

b. Complete the calculation to prove this.
 $4 \times 4 = _ \times 4 - _ = _$

Jo says,

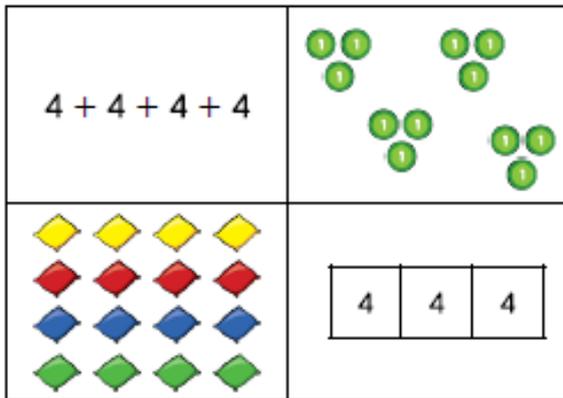
"The answer is double 2×4 "

c. Complete the calculation to prove this.
 $4 \times 4 = _ \times 4 \times _ = _$

d. Whose idea do you prefer? Why?

Question 3:

Which part below does not show counting in fours?



Explain why.

Challenge 4 Answers

Question 1:

Stacy has more sweets.

Working out should include $4 \times 5 = 20$ (Gavins sweets) and $6 \times 4 = 24$ (Stacys sweets). So Stacy has 4 more sweets than Gavin.

Question 2:

$$\begin{aligned} & a. \quad 4 \times 4 \\ & = 3 \times 4 + 4 \\ & = 12 + 4 \\ & = 16 \end{aligned}$$

$$\begin{aligned} & b. 4 \times 4 \\ & = 5 \times 4 - 4 \\ & = 20 - 4 \\ & = 16 \end{aligned}$$

$$\begin{aligned} & c. 4 \times 4 \\ & = 2 \times 4 \times 2 \\ & = 16 \end{aligned}$$

d. Personal choice!

Question 3:

The green counters do not show counting in fours because each part has 3 so it is counting in 3's.