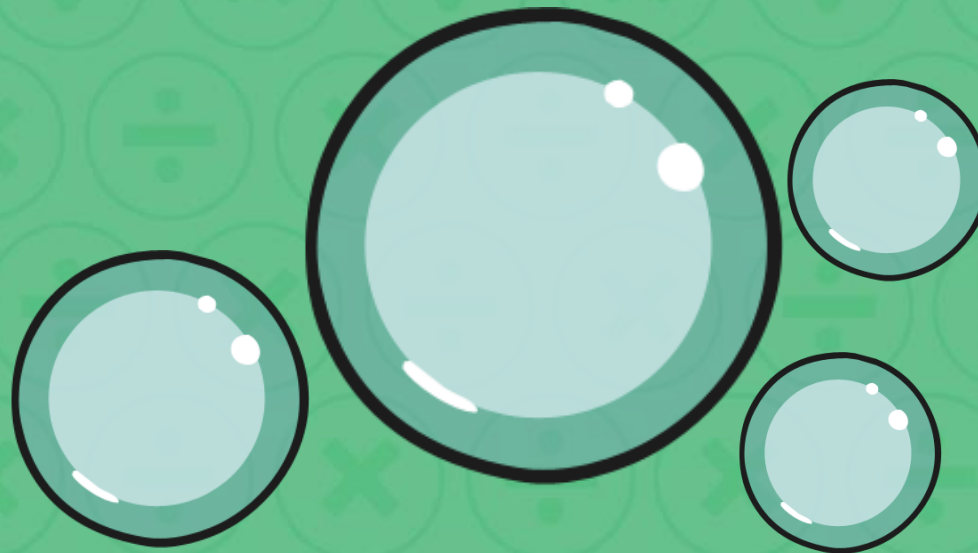




# Maths

## Multiplication and Division

# The Nines



# Aim

- I can multiply and divide by nine.

# Success Criteria

- I can count in nines.
- I can recognise multiples of 9 up to  $12 \times 9$ .
- I can use my knowledge of the 9 times table to find the related division facts.
- I can investigate and describe patterns in the 9 times table.
- I can use patterns to predict the next multiple of 9.

# Four Facts



Use the three numbers in the bubbles to make four facts, like this...



$$4 \times 7 = 28$$

$$28 \div 4 = 7$$

$$7 \times 4 = 28$$

$$28 \div 7 = 4$$

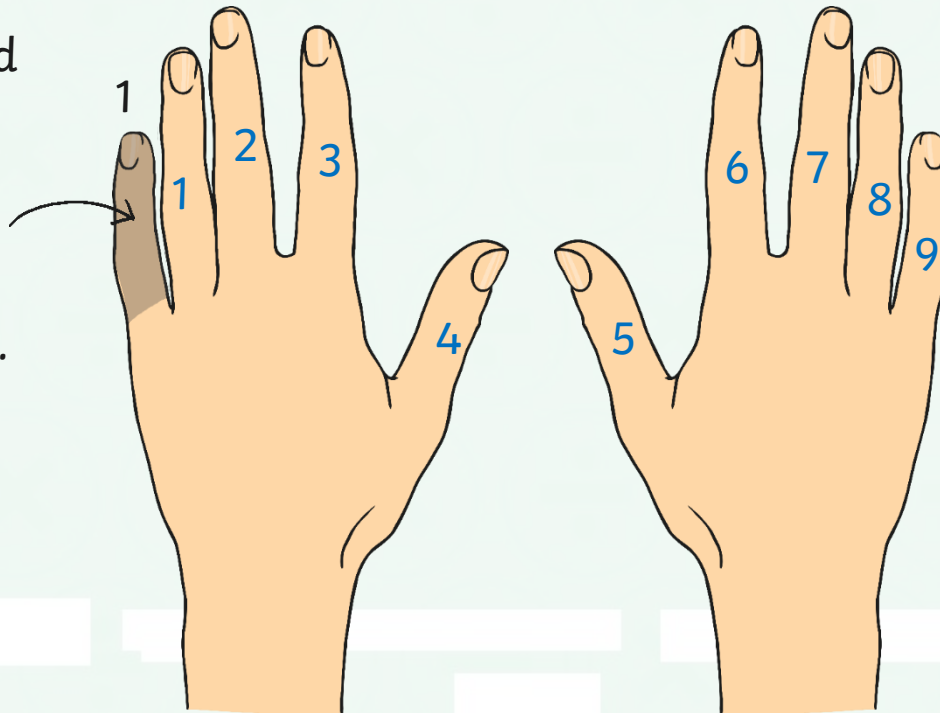


# Let's Count in Nines



$$1 \times 9 = 9$$

Bend the shadowed finger down to separate the **tens** and **ones**.



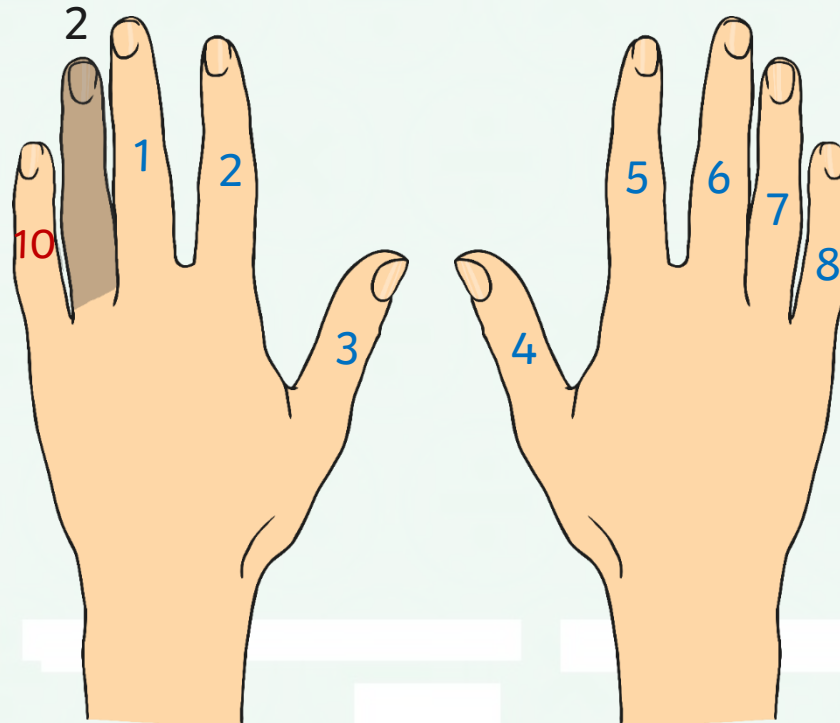
0 tens

9 ones

# Let's Count in Nines



$$2 \times 9 = 18$$



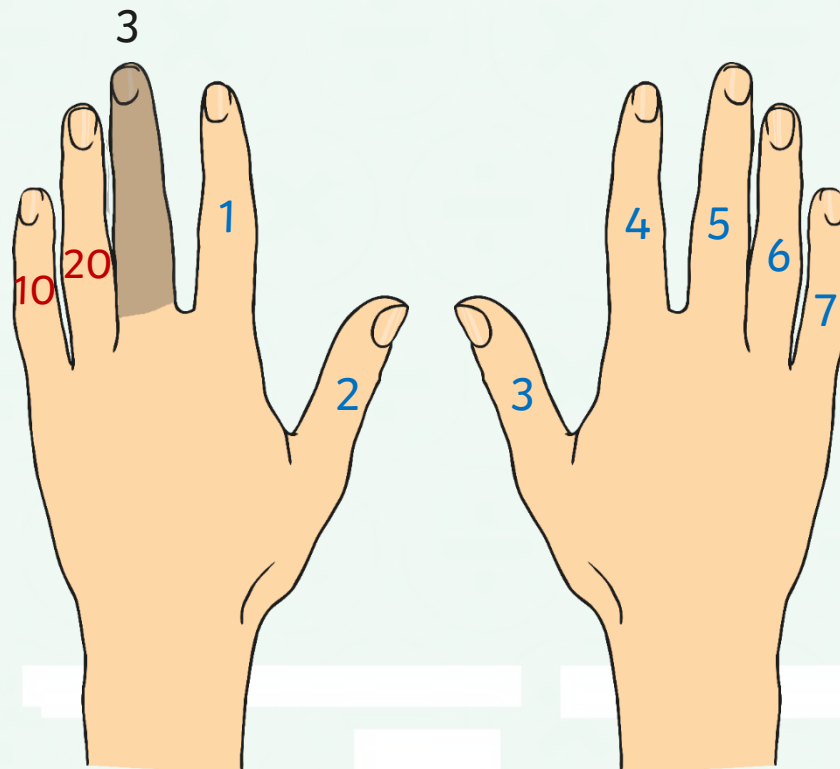
1 tens

8 ones

# Let's Count in Nines



$$3 \times 9 = 27$$



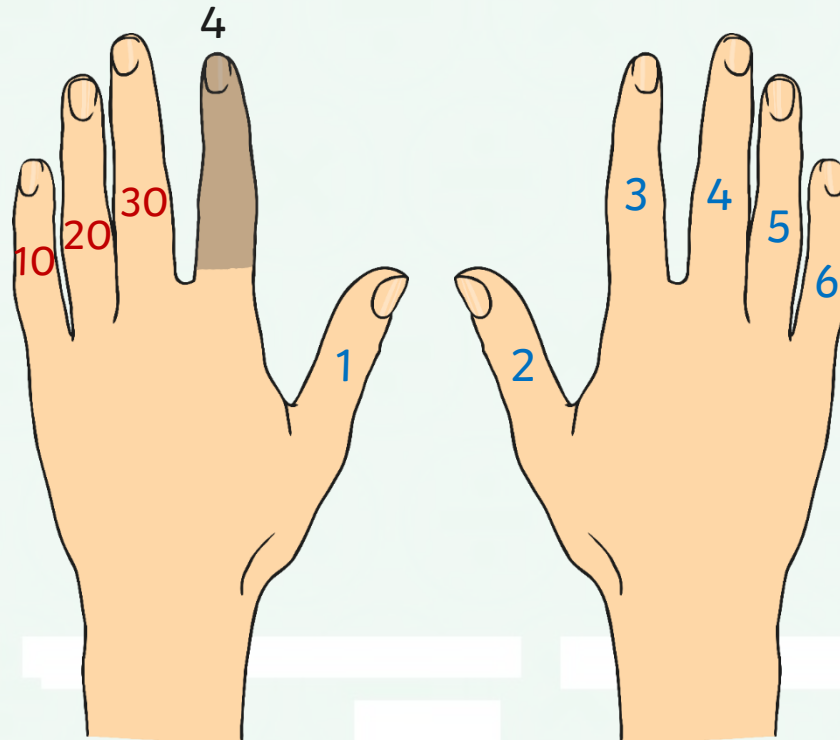
2 tens

7 ones

# Let's Count in Nines



$$4 \times 9 = 36$$



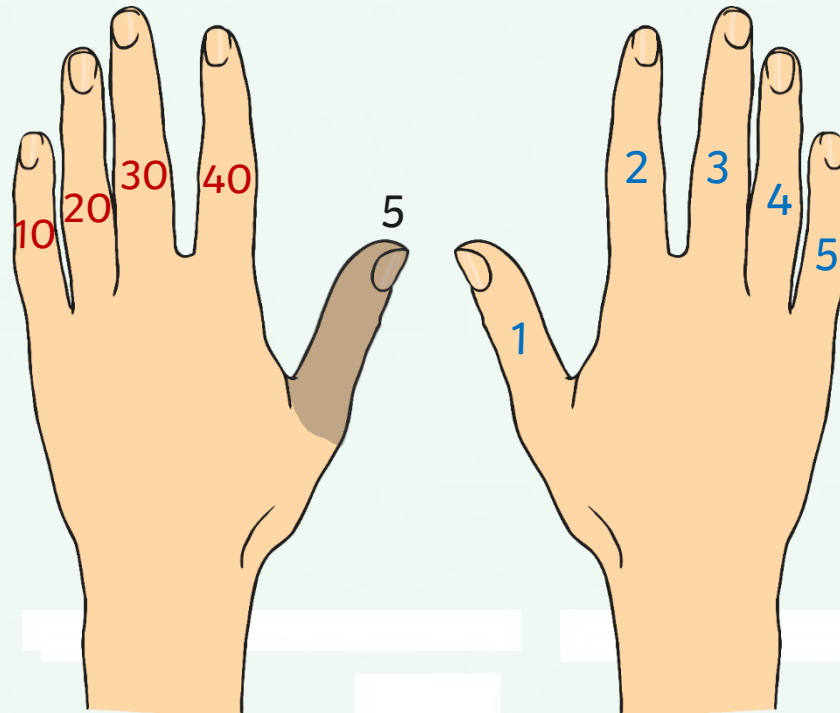
3 tens  
6 ones



# Let's Count in Nines



$$5 \times 9 = 45$$



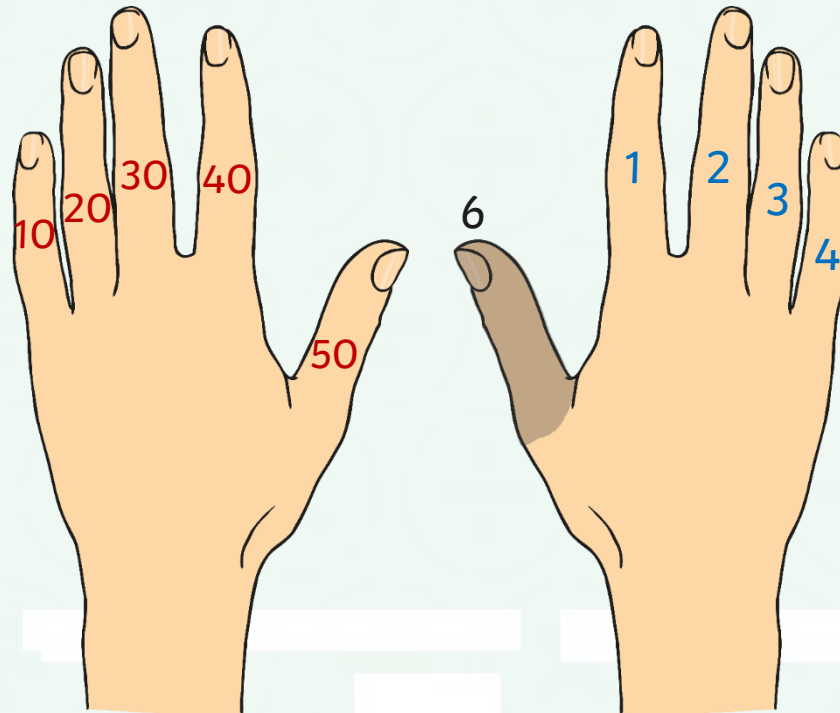
4 tens

5 ones

# Let's Count in Nines



$$6 \times 9 = 54$$

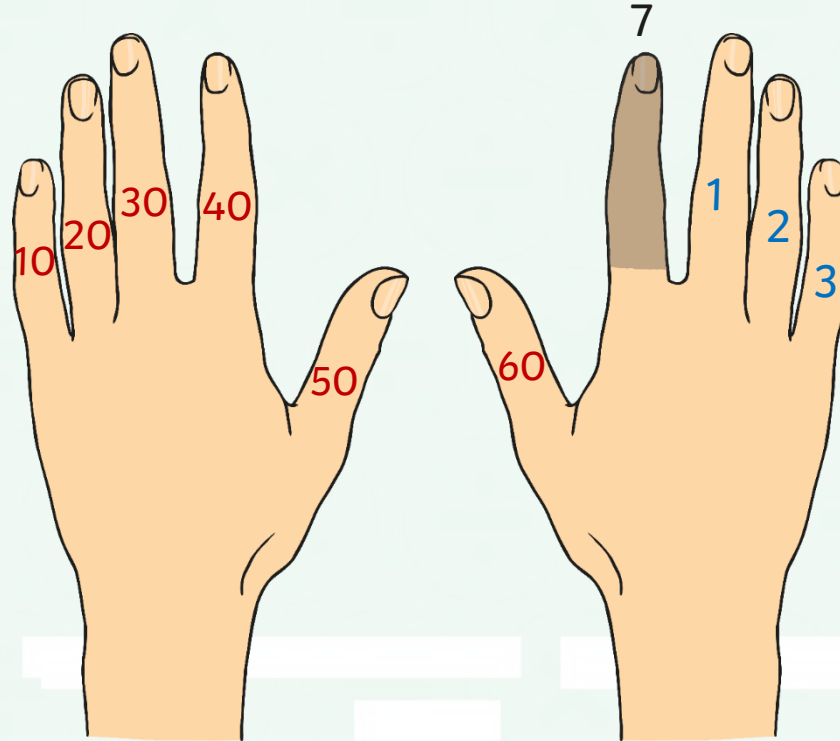


5 tens  
4 ones

# Let's Count in Nines



$$7 \times 9 = 63$$



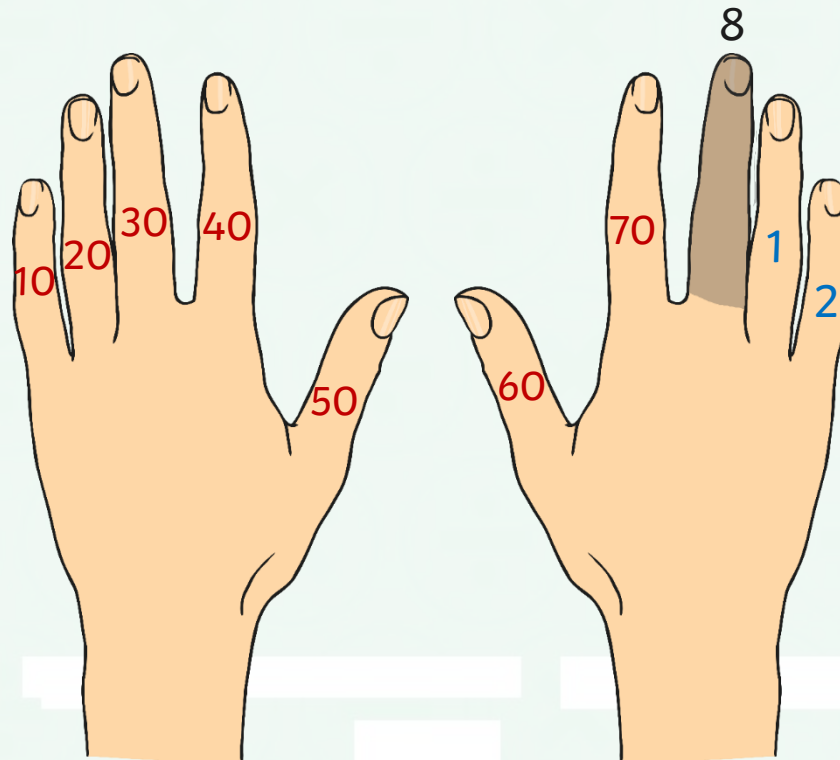
6 tens

3 ones

# Let's Count in Nines



$$8 \times 9 = 72$$

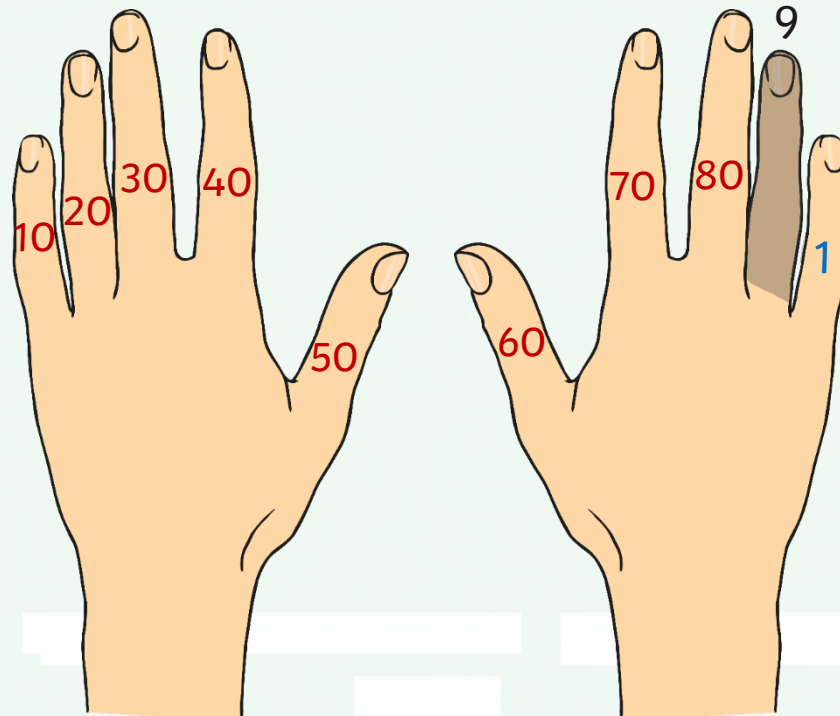


7 tens  
2 ones

# Let's Count in Nines



$$9 \times 9 = 81$$



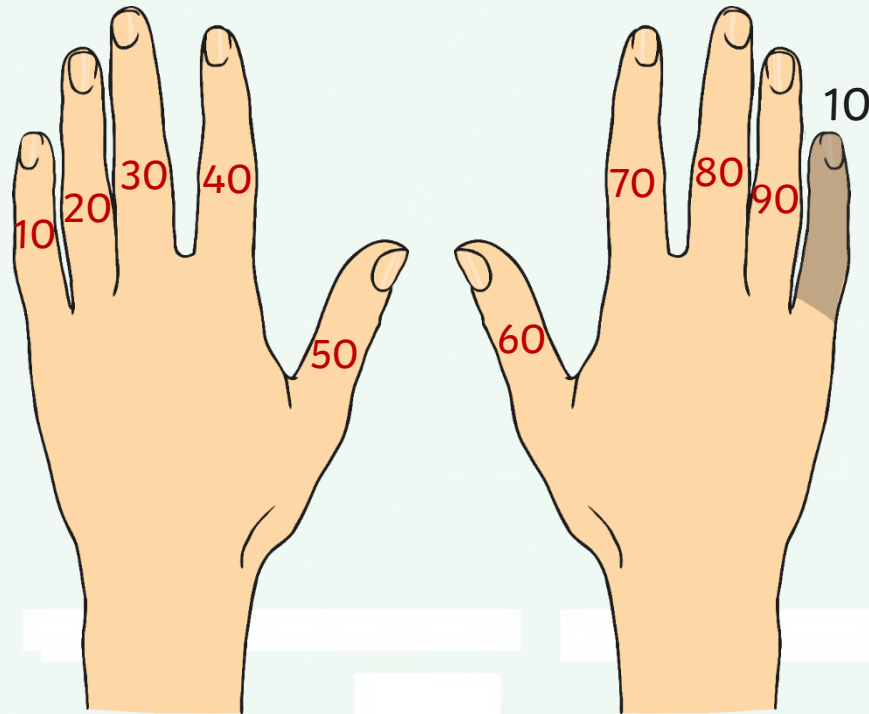
8 tens

1 ones

# Let's Count in Nines



$$10 \times 9 = 90$$



9 tens

0 ones

# Patterns in the Nines



Write out your nine times table from  $0 \times 9$  to  $12 \times 9$ .

Can you see any patterns in the ones digits or tens digits?

Add the ten and ones digits together for each multiple of nine.  
What do you notice?

## Challenge

What happens if you keep counting up to  $20 \times 9$ ?

Do the patterns continue?

Can you use the patterns to predict the next multiple of nine?

# The Nines Activities



**★** **The Nines**

**The Nine Times Table Facts**

$0 \times 9 =$	$5 \times 9 =$
$1 \times 9 =$	$6 \times 9 =$
$2 \times 9 =$	$7 \times 9 =$
$3 \times 9 =$	$8 \times 9 =$
$4 \times 9 =$	$9 \times 9 =$

**Patterns in the Nine Times Table**

The tens digits...

The ones digits...

If you add the digits in multiples of nine together

**★★** **The Nines**

Make a presentation explaining the patterns that you discovered when investigating the nine times table. You must give lots of examples to help you to explain your ideas.

**twinkl planit** Maths | Year 4 | Multiplication and Division | Multiplication and Division Facts | Lesson 3 of 6: The Nines

**★★★** **The Nines**

Following your investigation into patterns in the nine times table, you have been asked to produce an educational video to explain your findings to a group of nine year olds. Write a script for the video and make any props or visual aids that you might need. Practise your performance and record it if possible.

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**★★★** **The Nines**

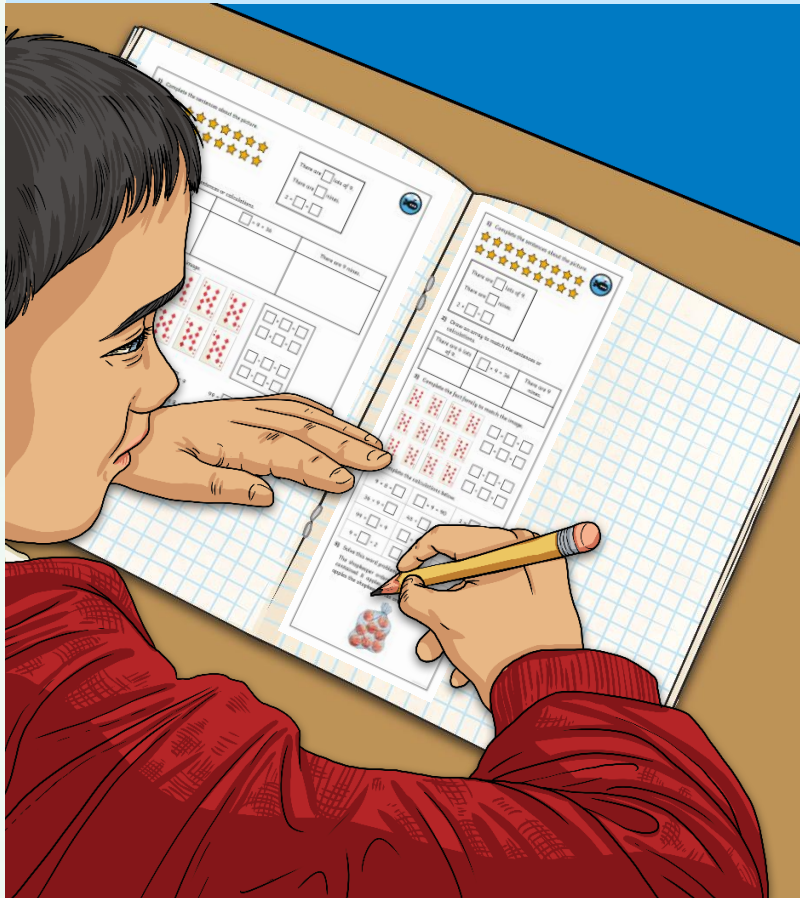
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# Diving into Mastery

Dive in by completing your own activity!



1) Complete the sentences about the picture.

There are  lots of 9.  
 There are  nines.  
 $2 \times \square = \square$

2) Draw an array to match the sentences or calculations.

There are 6 lots of 9.	$\square \times 9 = 36$	There are 9 nines.

3) Complete the fact family to match the image.

$\square \times \square = \square$   
 $\square \div \square = \square$   
 $\square \times \square = \square$   
 $\square \div \square = \square$

4) Complete the calculations below.

$9 \times 8 = \square$	$\square \times 9 = 90$	$1 \times \square = 9$
$36 \div 9 = \square$	$45 \div \square = 9$	$\square \div 9 = 9$
$99 = \square \times 9$	$\square = 7 \times 9$	
$9 = \square \div 2$	$\square = 27 \div 9$	

5) Solve this word problem.

The shopkeeper ordered 9 bags of apples. Each bag contained 8 apples. What is the total amount of apples the shopkeeper has ordered?

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is the total amount of apples the

# Peer Assessment



What did you like best about the way this group presented their ideas?

How could they make their work even better?



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