

Disclaimer

We hope you find the information on our website and resources useful.

Animations

This resource has been designed with animations to make it as fun and engaging as possible. To view the content in the correct formatting, please view the PowerPoint in 'slide show mode'. This takes you from desktop to presentation mode. If you view the slides out of 'slide show mode', you may find that some of the text and images overlap each other and/or are difficult to read.

To enter slide show mode, go to the **slide show menu tab** and select either **from beginning** or **from current slide**.



Maths

Multiplication and Division

Multiples



Aim

- To identify multiples of numbers.

SuccessCriteria

- I can explain what a multiple is.
- I can identify and use rules to find multiples.
- I can identify common multiples.

Remember It

Which of the following numbers are in the 3 and 6 times table?

54 24 21
15 42 39

Which of the following numbers is NOT in the 4 times table?

28 8 16
34 44 32

Can you complete the missing numbers from this section of a hundred square?

4	5	6	7	8
14	15	16	17	18
24	25	26	27	28
34	35	36	37	38

What do you notice about the missing numbers?


What Is a Multiple?

What is a multiple?


A multiple is the product of a number multiplied by another whole number.

Let's take a look at the 5 times table.

A multiple of 5 is the product of 5 and any number:

$$5 \times 4 = 20$$


so 20 is a multiple of 5

$$5 \times 9 = 45$$


so 45 is a multiple of 5

What Is a Multiple?

Now, let's take a look at the 3 times table.

A multiple of 3 is the product of 3 and any number:

$$3 \times 7 = 21$$

so 21 is a multiple of 3

$$3 \times 56 = 168$$

so 168 is a multiple of 3

All of these numbers are multiples of 3 as they are in the 3 times table:

51	12	306
99	102	48

What Is a Multiple?

There are also some rules we can use to help us quickly identify multiples. Here are a few common rules:

Multiples of:	Rule	Example
2	The last digit is even (2, 4, 6, 8, 0).	7894 is a multiple of 2 because its final digit is even.
3	The sum of its digits is divisible by 3.	615 $\rightarrow 6 + 1 + 5 = 12$ 12 can be divided by 3 so 615 is a multiple of 3.
4	The last two digits make a number divisible by 4.	8512 \rightarrow 12 is in the 4 times table so 8512 is a multiple of 4.
5	The last digit is 5 or 0.	890 is a multiple of 5 because its final digit is 0.

Challenge:

Is 898 a multiple of 3?
How do you know?

No

$8 + 9 + 8 = 25$
25 cannot be divided by 3 so
898 is not a multiple of 3.

Maryam has sorted these statements into a true or false table. Is she correct? Explain your reasoning.

Maryam is correct. It is true because 435 is divisible by 5. We know this because it ends in a 5.



She is correct. It is false because it is not in the 7 times table.

True

435 is a multiple of 5

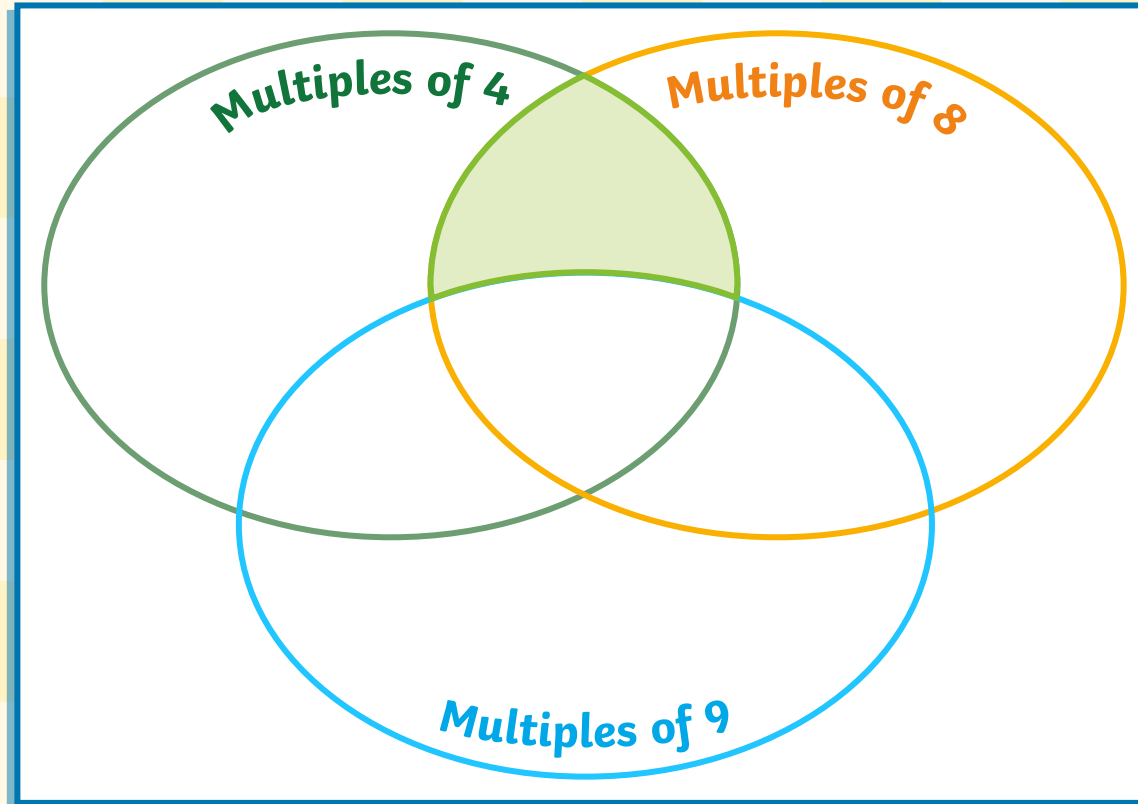
False

54 is a multiple of 7

345 is a multiple of 3

Maryam is wrong. It is true. We know this because $3+4+5=12$ 12 is in the 3 times table.

Sort the multiples below into the Venn diagram.



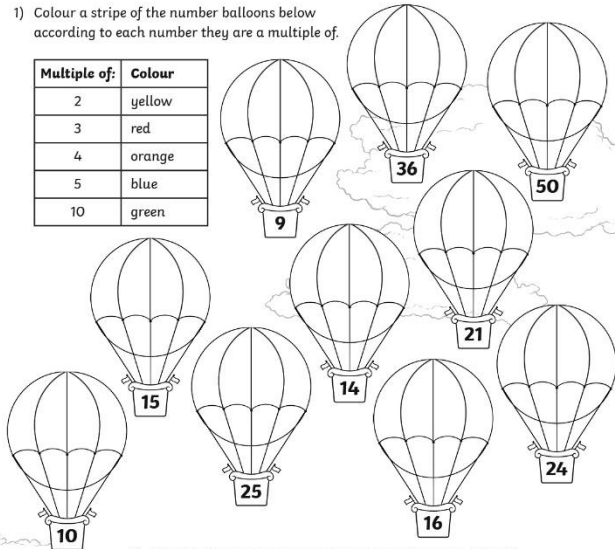
The numbers which appear in several times tables are called common multiples. Which common multiples of 4 and 8 can you see on this slide?

Multiples

To identify multiples of numbers.

- 1) Colour a stripe of the number balloons below according to each number they are a multiple of.

Multiple of:	Colour
2	yellow
3	red
4	orange
5	blue
10	green



- Which balloons have been coloured more than one colour?

- What is the term used to describe these numbers?

- Which of the balloons have only been coloured once?

Multiples

To identify multiples of numbers.

rule. The first one has been done for you.

- The last two digits form a number divisible by 4.
- The last digit can be divided by 2 and the total of the digits can be divided by 3.
- The last three digits form a number divisible by 8.
- The sum of its digits is divisible by 3.
- The last digit is 0.
- The last digit is even (2, 4, 6, 8, 0).
- The last digit is 5 or 0.

Write down five possible multiples greater than 50 for each number.

Multiple				

Multiples

To identify multiples of numbers.

rule. The first one has been done for you.

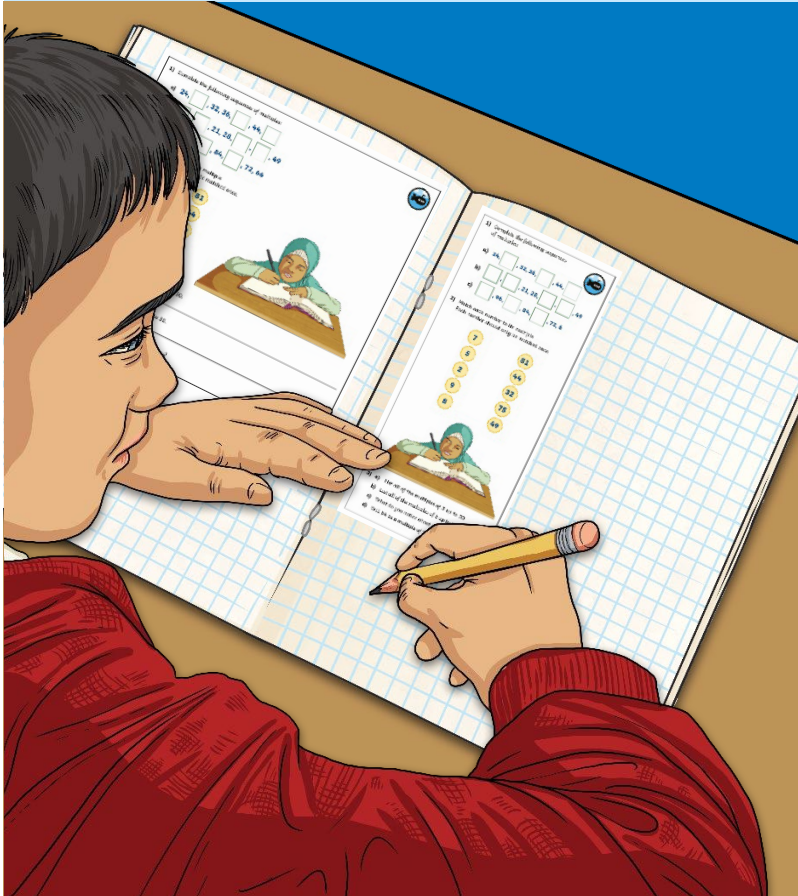
- Multiply the last digit by 2. Then subtract the product from the remaining digits. This new number should be divisible by 7.
- The sum of all the digits is divisible by 9.
- The last two digits form a number divisible by 4.
- The last digit can be divided by 2 and the total of the digits can be divided by 3.
- The last three digits form a number divisible by 8.
- The sum of its digits is divisible by 3.
- The last digit is 0.
- The last digit is even (2, 4, 6, 8, 0).
- The last digit is 5 or 0.

Write down five possible 3-digit multiples for each number.

Multiple				

Diving into Mastery

Dive in by completing your own activity!



1) Complete the following sequences of multiples:

a) 24, , 32, 36, , 44,

b) , , 21, 28, , , 49

c) , 96, , 84, , 72, 66

2) Match each number to its multiple.
Each number should only be matched once.



7	81
5	44
2	32
9	75
8	49

3) a) List all of the multiples of 3 up to 30.

b) List all of the multiples of 6 up to 30.

c) What do you notice about both of the lists?

d) Will 54 be a multiple of 3 and 6?



Earlier, we looked at some rules for finding multiples.
Let's take a look at a few more:

Multiples of:	Rule	Example
6	The last digit can be divided by 2 and the total of the digits can be divided by 3.	$348 \rightarrow 8 \div 2 = 4$ $3 + 4 + 8 = 15 \rightarrow 15 \div 3 = 5$ It follows the rule so it is a multiple of 6.
7	Multiply the last digit by 2. Then, subtract this product from the remaining digits. This new number should be divisible by 7.	$378 \rightarrow 8 \times 2 = 16$ $37 - 16 = 21$ 21 is divisible by 7 so 378 is a multiple of 7.
8	The last 3 digits make a number divisible by 8.	2848 is a multiple of 8 because 848 is divisible by 8.
9	The sum of all the digits is divisible by 9.	$711 \rightarrow 7 + 1 + 1 = 9$ So 711 is a multiple of 9.

Aim



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