



# Maths

## Multiplication and Division

# Finding Patterns

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

# Aim

- I can explore patterns in the multiplication tables.

# Success Criteria

- I can find multiples of 2, 3, 4 and 8.
- I can predict and continue patterns.
- I can explain the patterns I see.
- I can investigate what happens when multiples of numbers are added together.

# Fact Maps



Your teacher will tell you which fact to use.

Add as many facts to your map as you can!

a)

$$3 \times 4 = 12$$

b)

$$7 \times 8 = 56$$

c)

$$8 \times 9 = 72$$

d)

$$2 \times 12 = 24$$

e)

$$12 \times 4 = 48$$

f)

$$9 \times 4 = 36$$

# Patterns in the 3s



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
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41	42	43	44	45	46	47	48	49	50
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Which numbers should be coloured to complete the pattern up to  $12 \times 3$ ?

# Patterns in the 3s



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If you continue the pattern can you predict the multiples of 3 up to 100?

# Patterns in the 3s



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Did you predict the pattern correctly?

# Patterns in the 2s and 4s



1	2	3	4	5	6	7	8	9	10
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What pattern do you see here?

Can we circle the multiples of 4?

What pattern do you think that will make?



# Patterns in the 2s and 4s



Words to help you:

- odd
- even
- halve
- double

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Fill in the blanks to explain what you found out.

To find the multiples of 4, you \_\_\_\_\_ the multiples of 2.

There is a column of unshaded numbers between the 2s and 4s because these are the \_\_\_\_\_ numbers and multiples of 2 and 4 are always \_\_\_\_\_.

Can you think of a sentence of your own to explain the pattern?

# Finding Patterns



## Finding Patterns

I can identify multiplication patterns.

1. On a blank 100 square colour the multiples of 4 up to 120.  
Can you spot a pattern?  
Can you use the pattern to help you colour all of the multiples of 4?
2. On the same 100 square circle the multiples of 8 up to 120.  
Can you spot a pattern?  
Can you use the pattern to help you circle all of the multiples of 8?
3. Now look at both patterns.  
What do you notice?  
Complete these sentences:  
The 8x table facts are \_\_\_\_\_ the 4x table facts.
4. Does this work for multiples of 5 and 10 too? Use another blank 100 square to investigate.

Some words to help you:

double          half          odd

## Finding Patterns

I can identify multiplication patterns.

1. On a blank 100 square colour the multiples of 2 up to 120.  
Can you spot a pattern?  
Can you use the pattern to help you colour all of the multiples of 2?
2. On the same 100 square circle the multiples of 4 up to 120.  
Can you spot a pattern?  
Can you use the pattern to help you circle all of the multiples of 4?
3. On the same 100 square underline the multiples of 8 up to 120.  
Can you spot a pattern?  
Can you use the pattern to help you underline all of the multiples of 8?

Now look at all 3 patterns.

What do you notice?

Complete these sentences:

The **2x** table facts are \_\_\_\_\_ the 4x table facts.

The **8x** table facts are \_\_\_\_\_ the 4x table facts.

The **4x** table facts are \_\_\_\_\_ the 2x table facts.

Write some more sentences of your own to explain what you notice.

4. Does this work for multiples of 3 and 6 too? Use another blank 100 square to investigate.

## Finding Patterns Challenge

I can identify multiplication patterns.

1. If you double the multiples of 4 do you get the multiples of 8?  
Use a blank 100 square to investigate your theory up to 100.
2. What happens if you add multiples together?  
 $2 + 3 = 5$  so...  
If you add  $2 \times 2$  and  $2 \times 3$ , do you get  $2 \times 5$ ?  
What about  $6 \times 2$  and  $6 \times 3$ , do you get  $6 \times 5$ ?  
Does it work with  $4 + 3 = 7$ ? Do the 4s plus the 3s give you the 7 x tables?  
  
Try these out and find lots of examples of your own.  
You will be sharing your ideas with the class at the end of the lesson.

# What Did You Find Out?



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What happens when you add tables together?

# Aim



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