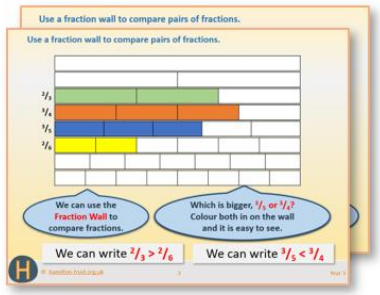
Week 11, Day 3

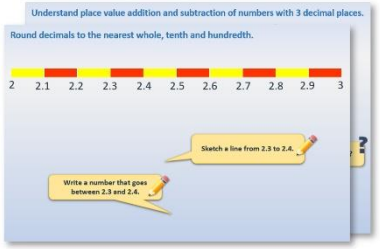
Create, describe and predict patterns

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



OR start by carefully reading through the **Learning Reminders**.



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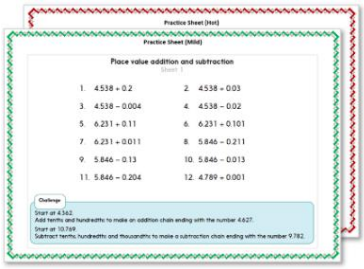
2. Think you've got it? Have a go at the **Investigation** or **Practical Activity**.



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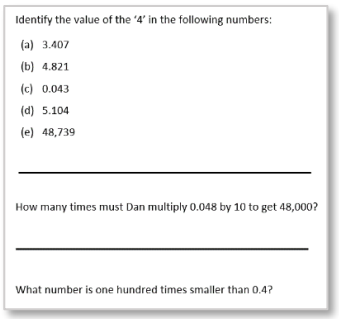
3. Have I mastered the topic? A few questions to **Check your understanding**.
Fold the page to hide the answers!



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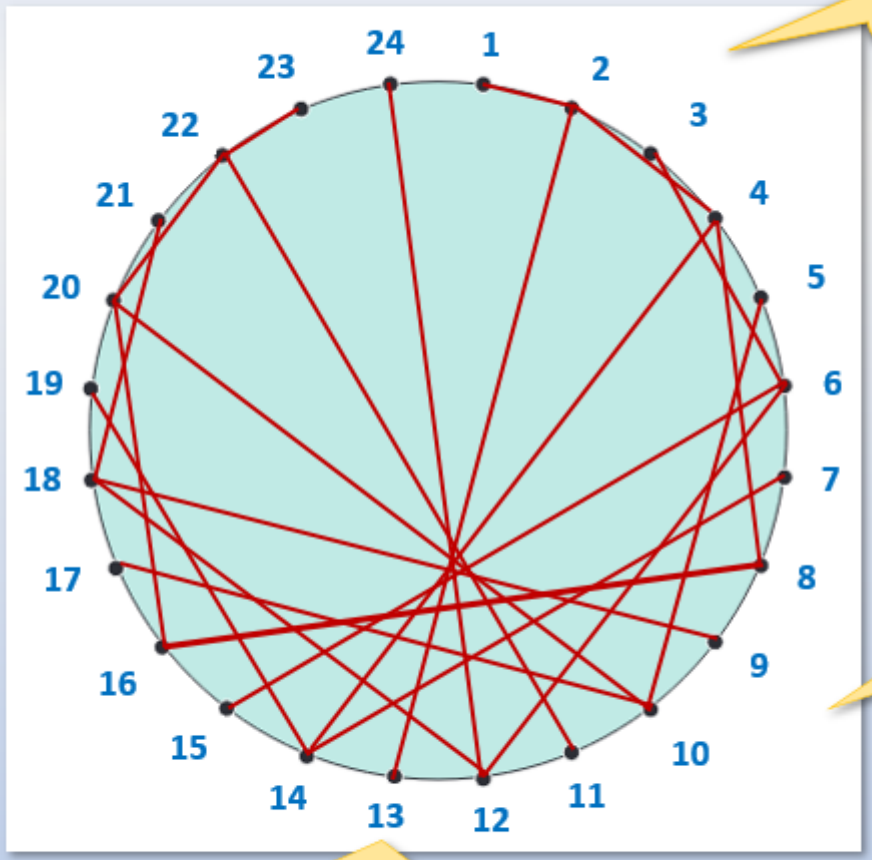
Learning Reminders

Investigate patterns made by joining multiples.



Starting at number 1, we are going to join each point to its double.

So we join
1 to 2
2 to 4
3 to 6
...

Double 14 is 28.
We count on 4 from 24 to where 28 would be, so we join 14 to 4.

We carry on until we reach 24, which joins to itself!

How would you describe the pattern? Is it symmetrical?

Double 13 is 26.
We count on 2 from 24 to *where 26 would be*, so join 13 to 2.

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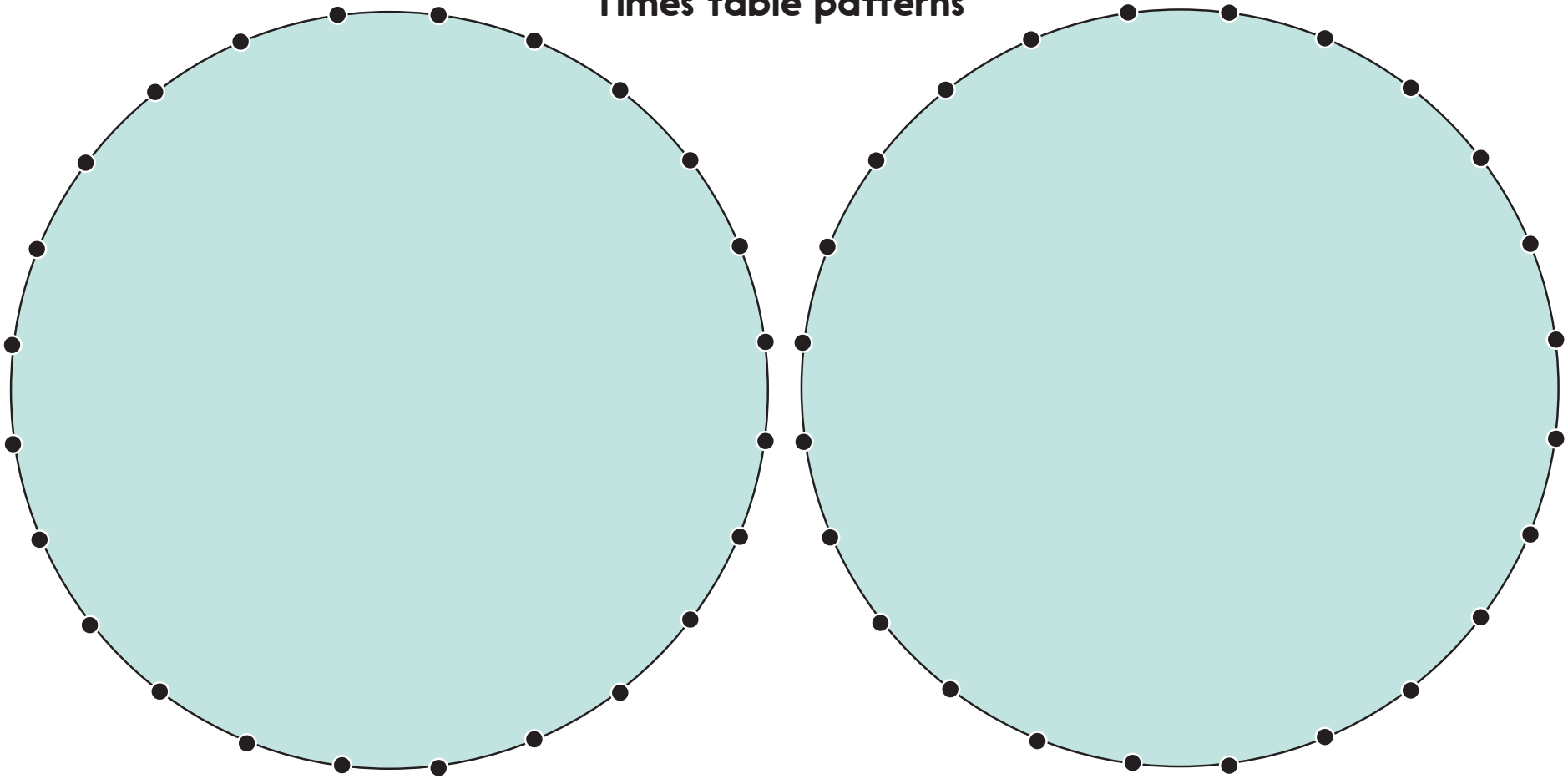
Investigation

Times table patterns



- Label the dots 1 to 24. It doesn't matter where you start.
- Explore the pattern created if each point is joined to its multiple of 3, i.e. 1 joins 3, 2 to 6 and so on. 9 x 3 is 27; 27 is 3 more than 24 (your biggest number). So join 9 to 3 and so on.
- What pattern is created?
- Continue investigating, looking for patterns created by the 4, 5 and 6 times tables. What do you notice, having created these 5 patterns?
- Now repeat, with your own choice of multiples. Can you predict the pattern that will be made? How?

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Check your understanding

Questions

Which of these numbers are multiples of 9?

28 108 126 49 153 891 How do you know?

Which of these numbers are multiples of 7?

84 79 32 63 56 140 133 How do you know?

Complete this grid as fast as you can.

Can you solve the puzzle in under one minute?!

x	**7**		**9**
	42		
			63
8		96	

Write common multiples of 4 and 6 up to 60. What is the *lowest* common multiple?

Use this information to find the lowest common multiple of 8 and 12.

Answers on next page

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Check your understanding

Answers

Which of these numbers are multiples of 9?

28 108 126 49 153 891 How do you know?

108, 126, 153 and 891 are all multiples of 9 (all have a digit sum = 9).

Which of these numbers are multiples of 7?

84 79 32 63 56 140 133 How do you know?

84, 63, 56, 140 and 133 are all multiples of 7. The first three are in the 7 times table; children should recognise 140 as a multiple of 7 (2 x 7 x 10) and 133 is 7 less than 140 so is also a multiple of 7.

Complete this grid as fast as you can.

Can you solve the puzzle in under one minute?!

x	**7**	**12**	**9**
6	42	72	54
7	49	84	63
8	56	96	72

Children not as confident with related division facts may struggle with this. Practise those as regularly as the multiplication facts.

Write common multiples of 4 and 6 up to 60. What is the lowest common multiple? 12 (lowest), 24, 36, 48 and 60.

Use this information to find the lowest common multiple of 8 and 12. 24: the common multiples of 8 and 12 are double those of 4 and 6 (24, 48, 72 …).

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