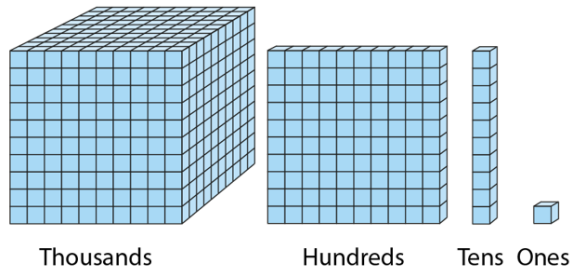


	Number and place value	Number facts	Addition and subtraction	Multiplication and division	Fractions, decimals and percentages	Geometry
4	<p>Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.</p> <p>Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning.</p> <p>Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.</p> <p>Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.</p>	<p>Recall multiplication and division facts up to <math>12 \times 12</math>, and recognise products in multiplication tables as multiples of the corresponding number.</p> <p>Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.</p> <p>Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100).</p>		<p>Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.</p> <p>Manipulate multiplication and division equations, understand and apply the commutative property of multiplication.</p> <p>Understand and apply the distributive property of multiplication</p>	<p>Reason about the location of mixed numbers in the linear number system.</p> <p>Convert mixed numbers to improper fractions and vice versa.</p> <p>Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.</p>	<p>Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</p> <p>Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.</p> <p>Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.</p>

Number and place value

- Compare the value of the units. What do you notice?



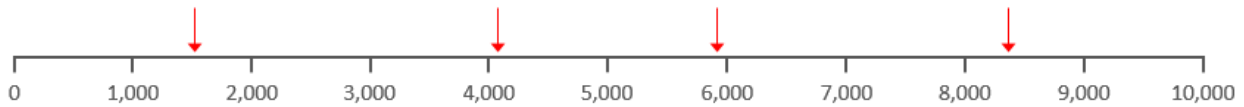
$$2,048 < 2,408$$

Th	H	T	O
1,000		10	1
1,000		10	1
		10	1
		10	1
			1
			1
			1
			1
			1
			1

Th	H	T	O
1,000	100		1
1,000	100		1
	100		1
	100		1
			1
			1
			1
			1
			1
			1

- What is the same about the two numbers represented? What is different?
- Which number is greater? To find out, compare each digit in turn starting with the highest value digit, the thousands. Then move to the hundreds, the first has zero hundreds and the second has 4 hundreds, so the second number has the highest value. Can you explain why?
- Repeat with other pairs of 4-digit numbers.



- Can you estimate what number the arrow is pointing to?
- Which two multiples of 1,000 is the number between? Which of these multiples is the arrow closer to? What would a suitable estimate be?
- Repeat for the other arrows discussing the corresponding multiples either side and which the arrow is closer to.
- Where do you think 7,347 would be on the line? Repeat for other numbers.

The previous multiple of 1,000 is \_\_\_\_\_. The next multiple of 1,000 is \_\_\_\_\_.



2, 4, 5 and 10 part composition of 1,000

2 part	<table border="1"><tr><td colspan="2">1,000</td></tr><tr><td> </td><td> </td></tr></table>	1,000																			
1,000																					
4 part	<table border="1"><tr><td colspan="4">1,000</td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></table>	1,000																			
1,000																					
5 part	<table border="1"><tr><td colspan="5">1,000</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>	1,000																			
1,000																					
10 part	<table border="1"><tr><td colspan="10">1,000</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>	1,000																			
1,000																					

- If we divide the thousand into 2 equal parts, what is the value of each part?
- What if we divide the thousand into 4 equal parts?
- 5 equal parts?
- 10 equal parts?

Number facts

18		
6	6	6

18					
3	3	3	3	3	3

$$6 \times 3 = 18$$

$$18 \div 6 = 3$$

$$\frac{1}{6} \text{ of } 18 = 3$$

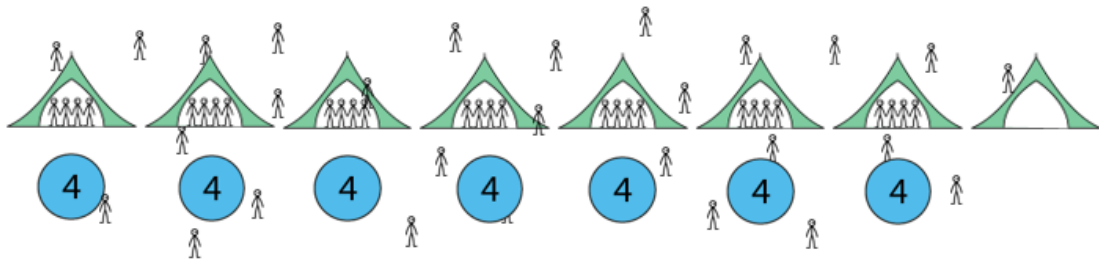
$$3 \times 6 = 18$$

$$18 \div 3 = 6$$

$$\frac{1}{3} \text{ of } 18 = 6$$

- What other related facts can you write using division?
- Can you write any facts using fractions of amounts?

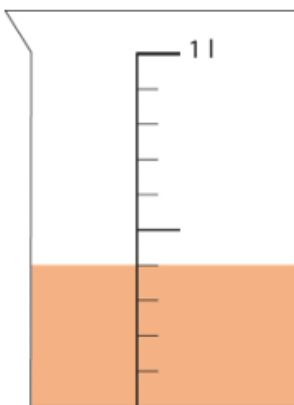
4 scouts can fit in each tent. How many tents needed for 30 scouts?



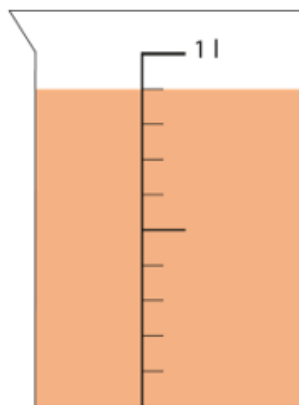
$$30 \div 4 = 7 \text{ r } 2$$

8 tents needed.

*We need another tent for the 2 left over scouts.*



400 ml



900 ml

$$+ \quad = 1,300 \text{ ml}$$

- Can you read the scale to find how much liquid in the first jug? And the second jug?
- If we add these together, can you write the related fact that will help you solve this calculation?
- Could we add to make 1,000 first? What is the best way to do this? If we add on to 900 to make 1,000, how much have we added? How much more do we need to add?
- Repeat using other number pairs and other measures contexts including length and mass.



Multiplication and division

**$95 \times 100 = 9,500$**

**$9,500 \div 100 = 95$**

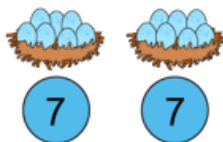
1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9

$\div 100$   
one-hundredth of the size

- When we multiply 95 by 100, what is the new value of the 9 digit? The 5 digit?
- What happens to the zero in the ones/tens when we divide 9,500 by 100?
- Provide further 2-digit numbers to multiply by 100 and multiples of 100 to divide by 100.

*To multiply a whole number by 100, place two zeros after the final digit of that number.  
To divide a multiple of 100 by 100, remove the zeros from the tens and ones places.*

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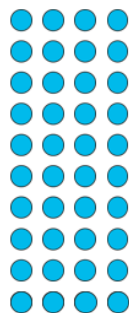


**$2 \times 7 = 14$**

**$7 \times 2 = 14$**

- Can you write two multiplication equations to represent this picture? What does the 2 represent? The 7? The 14?
- What is the same/different?
- Which are the factors in your equation? What is the product? Does the order of the factors affect the product?
- Repeat using other images and real-life contexts.

*The product of \_\_\_ and \_\_\_ is equal to the product of \_\_\_ and \_\_\_.  
\_\_\_ times \_\_\_ is equal to \_\_\_ times \_\_\_.*



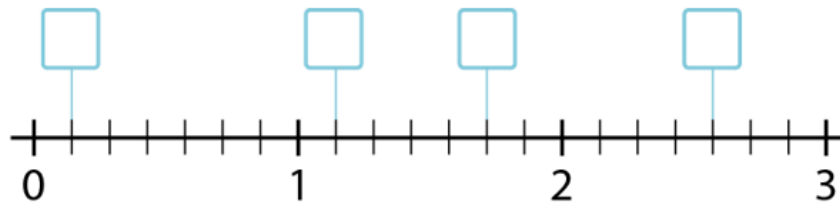
**$9 = 10 - 1$**   
 **$9 \times 4 = 10 \times 4 - 1 \times 4$**   
 **$= 40 - 4$**   
 **$= 36$**

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- Let's solve  $9 \times 4$  by finding  $10 \times 4$  first.
- *9 is equal to 10 minus 1, so 9 fours is equal to 10 fours minus 1 4.*
- Can you write the equation?
- Now solve  $9 \times 6$  by finding  $10 \times 6$  first.
- Repeat with similar calculations.
- Provide real-life contexts in which children can apply this method.

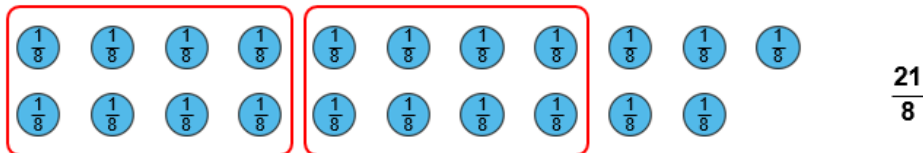


Fractions



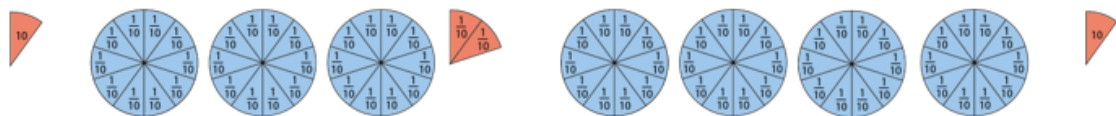
- What number is each box pointing to?
- How many intervals between each whole number? What fractional steps are between each whole number?
- Which two whole numbers is each letter between?

$1\frac{1}{7}$  is between 1 and 2. The previous number is 1. The next number is 2.



- Represent this using counters and writing  $\frac{1}{8}$  on each.
- How many groups of  $\frac{8}{8}$  in  $\frac{21}{8}$ ?
- How many eighths in 1 group of  $\frac{8}{8}$ ?
- How many eighths in 2 groups of  $\frac{8}{8}$ ? And how many more/extra eighths are there?

$$\frac{1}{10} + 3\frac{2}{10} + 4 + \frac{1}{10}$$

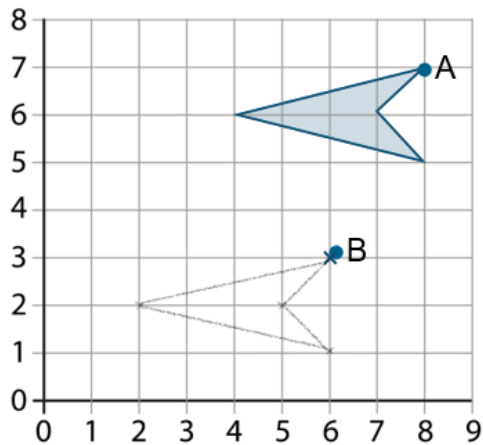


$$7\frac{4}{10}$$

- Can you draw a diagram to represent this?
- Can you put the whole ones together? How many are there? Now put the extra tenths together. How many tenths?
- Can you draw a part-part-whole model to show the parts. What is the total?
- Repeat using similar equations.

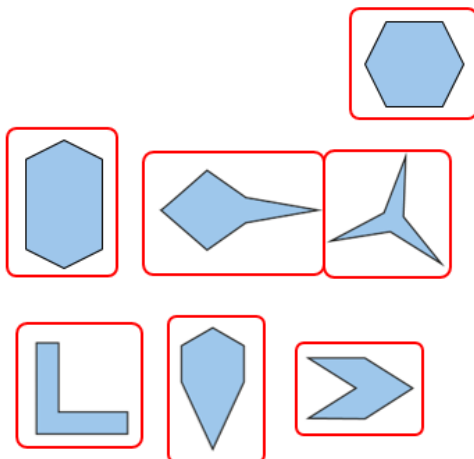
The parts are \_\_\_ and \_\_\_. The total, or whole, is \_\_\_.

Geometry



- What do we call this shape? Can you describe how point A has moved to point B.
- Now can you translate the three remaining points in the same way? When you join the translated points, what do you notice about the two shapes?
- Is the new polygon any different to the original polygon?
- What if point B was one square up, can you see straight away where the other vertices would need to be?

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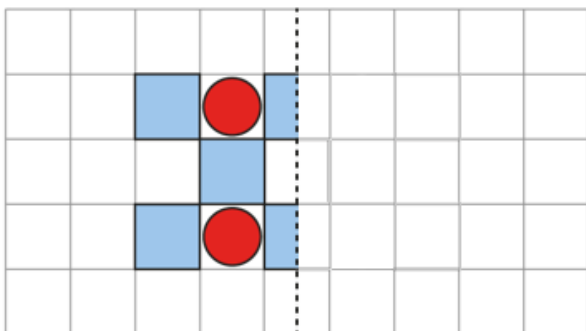


- Look at these shapes. What is the same/different about them?
- Can you think how we could sort these shapes? Which shapes have equal sides? Which shapes have equal angles? Which shapes have equal sides *and* equal angles? What do we call these shapes?

*This is a regular polygon, because all of the sides are the same length, and all of the interior angles are equal.*

- Can you draw/find a shape with equal sides and unequal angles? Equal angles but unequal sides? Equal sides and equal angles? Unequal sides and unequal angles?

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- Can you complete the symmetrical pattern?
- What is your strategy? Can you start closest to the mirror line?
- How can you check your answer?
- Can you see another line of symmetry?
- Repeat for other patterns.