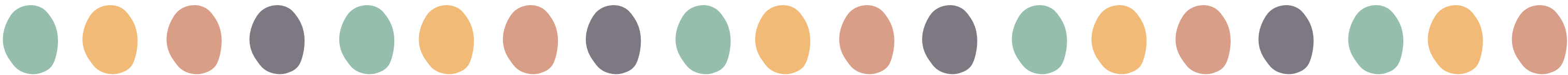


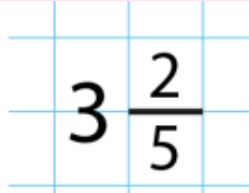
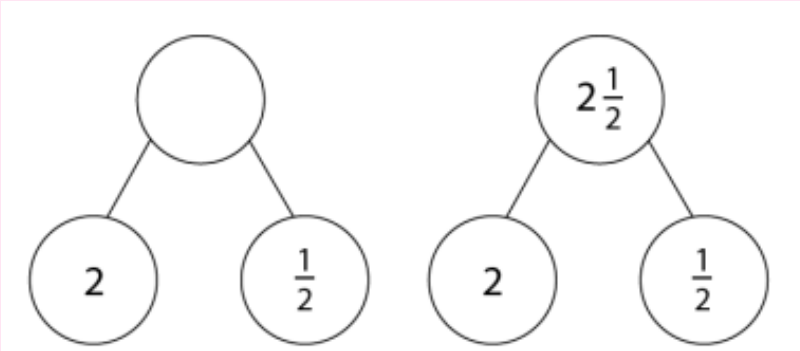
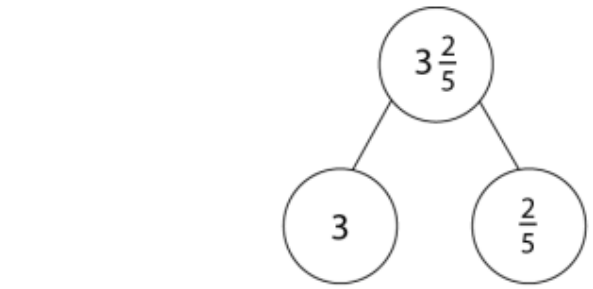
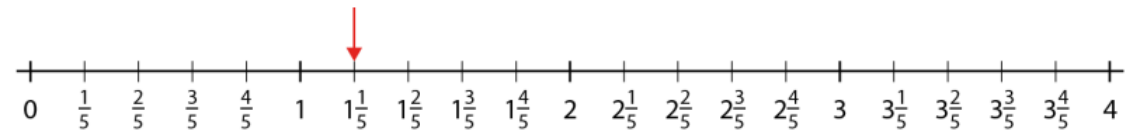
Y4- Overview

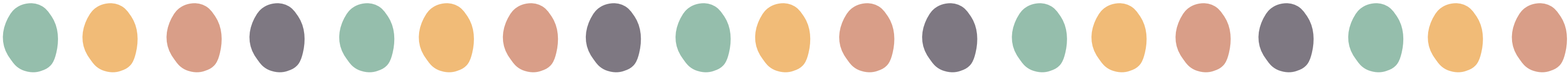
	Autumn 1		Autumn 2		Spring 1		Spring 2		Summer 1		Summer 2		
Unit	1	2	3		4	5	6	7	8	9	10	11	12

	Number and place value
	Number facts
	Addition and subtraction
	Multiplication and division
	Fractions
	Geometry
	Other

Spring 2	Composition of fractions greater than one
Ready to progress	4F-1 Reason about the location of mixed numbers in the linear number system. 4F-2 Convert mixed numbers to improper fractions and vice versa. 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.
NCETM documents	TEACHING POINT 1 AND 2:1 and 2:2 3.5 Working across one whole: improper fractions and mixed numbers https://themillacademy.org.uk/wp-content/uploads/2024/06/Year-4-NCETM-CP-Overview-2024-with-small-steps-and-Oak-Links.pdf
Small steps	To express quantities that are made up of both whole numbers and a fractional part. To explain how a mixed number is composed. To compose and decompose mixed numbers to solve addition and subtraction calculations. To solve problems involving mixed numbers. To label number lines accurately and explain the meaning of each part.
Links	NCETM- https://www.ncetm.org.uk/classroom-resources/primm-305-working-across-one-whole-improper-fractions-and-mixed-numbers/ OAK https://www.thenationalacademy/teachers/programmes/maths-primary-ks2/units/composition-of-fractions-greater-than-one/lessons?sid-b9ef46=FVdrNLkqbg&sm=0&src=3 WHITE ROSE https://whiteroseeducation.com/resources?year=year-4-new&subject=maths Mastery with greater depth https://www.ncetm.org.uk/media/x45na0cs/mastery_assessment_y4.pdf
Reasoning	Spot the mistake sixty tenths, seventy tenths, eighty tenths, ninety tenths, twenty tenths ... and correct it. 1. What comes next? 83/100, 82/100, 81/100, 31/100, 41/100, 51/100, What do you notice? 1/10 of 100 = 10 1/100 of 100 = 1 2/10 of 100 = 20 2/100 of 100 = 2 How can you use this to work out 6/10 of 200? 6/100 of 200? True or false? 1/20 of a metre = 20cm 4/100 of 2 metres = 40cm Missing symbol Put the correct symbol < or > in each box 3.03 3.33 0.37 0.32 What needs to be added to 3.23 to give 3.53? What needs to be added to 3.16 to give 3.2? Do, then explain Circle each decimal which when rounded to the nearest whole number is 5. 5.3 5.7 5.2 5.8 Explain your reasoning



	Composition of fractions greater than one										
Problem solving	 Click on me										
Glossary	- Mixed number - A mixed number is a whole number and a fraction combined. For example, one and a half is a mixed number. - Mixed number - A mixed number is a whole number and a fraction combined. For example, one and a half is a mixed number. - Composition - The composition of a whole number is the way in which the whole number is made up. For example, ten is composed of seven and three. - Interval - An interval is the space between two values or points.										
Stem sentences	Quantities made up of both whole numbers and a fractional part can be expressed as mixed numbers. There are _____ parts between zero and one. This means we are counting in units of _____. The line is divided into _____ equal parts. This allows us to count in _____. Each interval on the line is divided into _____ equal parts. This allows us to count in _____.										
Representations	   $3\frac{2}{5} = 3 + \frac{2}{5}$ $3 + \frac{2}{5} = 3\frac{2}{5}$ $3\frac{2}{5} - 3 = \frac{2}{5}$ $3 = 3\frac{2}{5} - \frac{2}{5}$ $3\frac{2}{5} = \frac{2}{5} + 3$ $\frac{2}{5} + 3 = 3\frac{2}{5}$ $\frac{2}{5} = 3\frac{2}{5} - 3$ $3\frac{2}{5} - \frac{2}{5} = 3$  on whiteboards. As with previous work, ensure children are accurate part, for example ‘five and one-eighth’, not ‘five and one-eight’. <table> <tr> <th>Teacher</th><th>Pupil</th></tr> <tr> <td>Write</td><td>Write or say</td></tr> <tr> <td>$5\frac{1}{8}$</td><td>‘five and one-eighth’</td></tr> <tr> <td>Write or say</td><td>Write</td></tr> <tr> <td>‘three and two-fifths’ or ‘three and two one-fifths’</td><td>$3\frac{2}{5}$</td></tr> </table>	Teacher	Pupil	Write	Write or say	$5\frac{1}{8}$	‘five and one-eighth’	Write or say	Write	‘three and two-fifths’ or ‘three and two one-fifths’	$3\frac{2}{5}$
Teacher	Pupil										
Write	Write or say										
$5\frac{1}{8}$	‘five and one-eighth’										
Write or say	Write										
‘three and two-fifths’ or ‘three and two one-fifths’	$3\frac{2}{5}$										

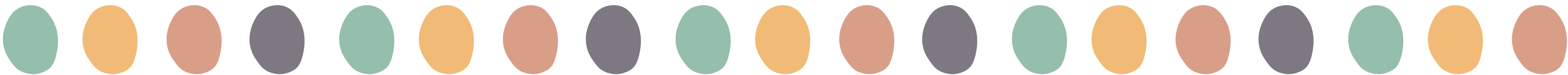


Y4 - Overview

	Autumn 1		Autumn 2		Spring 1		Spring 2		Summer 1		Summer 2		
Unit	1	2	3		4	5	6	7	8	9	10	11	12

	Number and place value
	Number facts
	Addition and subtraction
	Multiplication and division
	Fractions
	Geometry
	Other

Spring 2	Compare and order mixed numbers and position on a number line
Ready to progress	4F-1 Reason about the location of mixed numbers in the linear number system. 4F-2 Convert mixed numbers to improper fractions and vice versa. 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.
NCETM documents	From 2:2 to 4 35 Working across one whole: improper fractions and mixed numbers https://themillacademy.org.uk/wp-content/uploads/2024/06/Year-4-NCETM-CP-Overview-2024-with-small-steps-and-Oak-Links.pdf
Small steps	To express quantities that are made up of both whole numbers and a fractional part. To explain how a mixed number is composed. To compose and decompose mixed numbers to solve addition and subtraction calculations. To solve problems involving mixed numbers. To label number lines accurately and explain the meaning of each part.
Links	NCETM- https://www.ncetm.org.uk/classroom-resources/primm-305-working-across-one-whole-improper-fractions-and-mixed-numbers/ OAK https://www.thenationalacademy/teachers/programmes/maths-primary-ks2/units/composition-of-fractions-greater-than-one/lessons?sid-b9ef46=FVdrNLkqbg&sm=0&src=3 WHITE ROSE https://whiteroseeducation.com/resources?year=year-4-new&subject=maths Mastery with greater depth https://www.ncetm.org.uk/media/x45na0cs/mastery_assessment_y4.pdf
Reasoning	Spot the mistake sixty tenths, seventy tenths, eighty tenths, ninety tenths, twenty tenths ... and correct it. 1. What comes next? 83/100, 82/100, 81/100, 31/100, 41/100, 51/100, What do you notice? 1/10 of 100 = 10 1/100 of 100 = 1 2/10 of 100 = 20 2/100 of 100 = 2 How can you use this to work out 6/10 of 200? 6/100 of 200? True or false? 1/20 of a metre = 20cm 4/100 of 2 metres = 40cm Missing symbol Put the correct symbol < or > in each box 3.03 3.33 0.37 0.32 What needs to be added to 3.23 to give 3.53? What needs to be added to 3.16 to give 3.2? Do, then explain Circle each decimal which when rounded to the nearest whole number is 5. 5.3 5.7 5.2 5.8 Explain your reasoning



Problem solving



Click on me

Glossary

- **Mixed number** - A mixed number is a whole number and a fraction combined.
- **Integer** - An integer is a number that has no fractional part - they are whole numbers. This includes the counting numbers e.g. 1, 2, 3 and zero.
- **Estimate** - When we estimate, we find a value that is close enough to the right answer, usually with some thought or calculation involved.
- **Mixed number** - A mixed number is a whole number and a fraction combined.

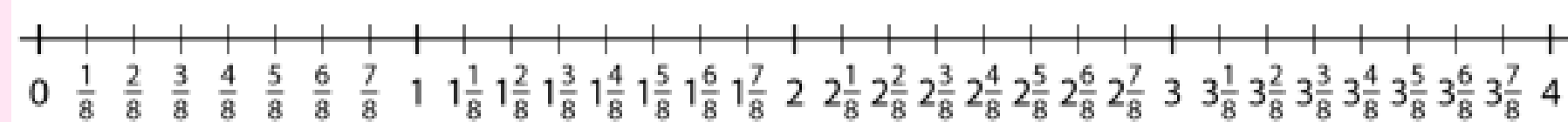
Stem sentences

Quantities made up of both whole numbers and a fractional part can be expressed as mixed numbers.

There are _____ parts between zero and one. This means we are counting in units of _____.

The line is divided into _____ equal parts. This allows us to count in _____.

Each interval on the line is divided into _____ equal parts. This allows us to count in _____.



Estimating the position of $1\frac{1}{3}$:

- Step 1:

' $1\frac{1}{3}$ sits between 1 and 2.'

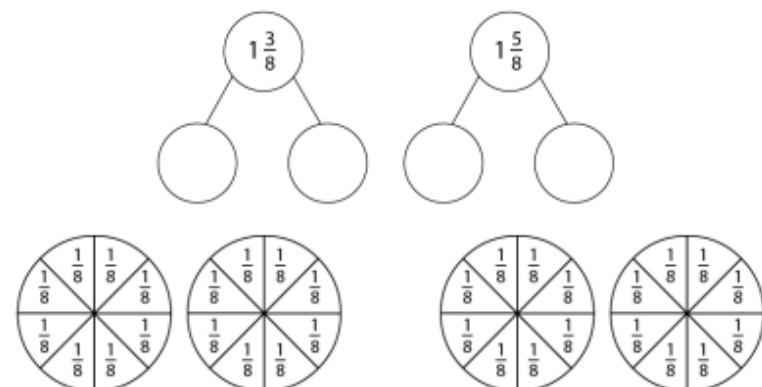
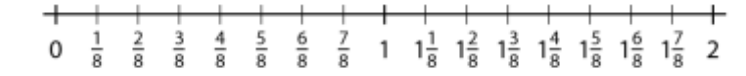


- Step 2:

'Imagine the interval 1–2 is split into three equal parts and we want one of those parts, or $\frac{1}{3}$.'



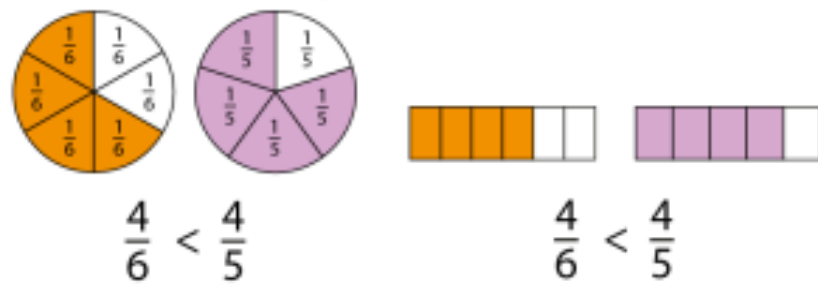
Supporting models:



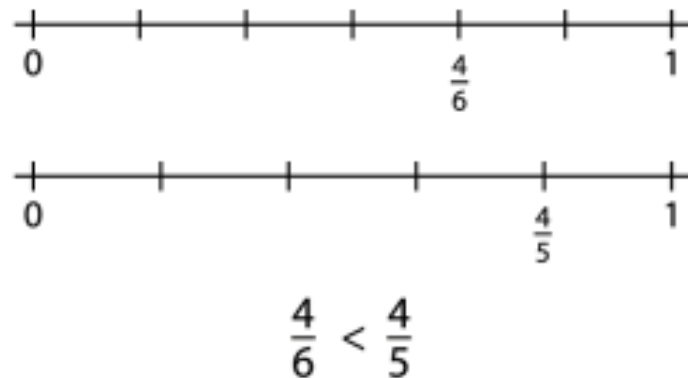
Representations

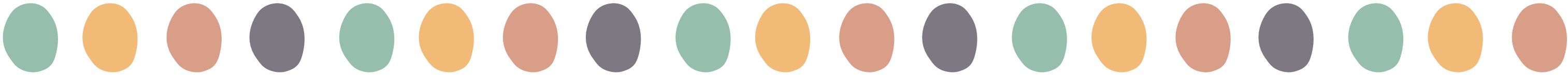
Comparing numbers – same numerator:

Method 1 – on a diagram



Method 2 – on a number line



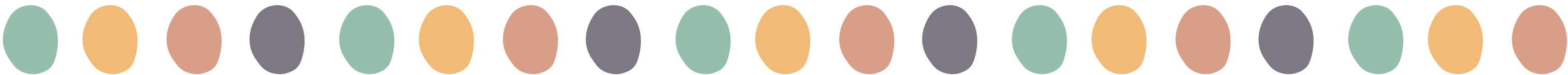


Y4- Overview

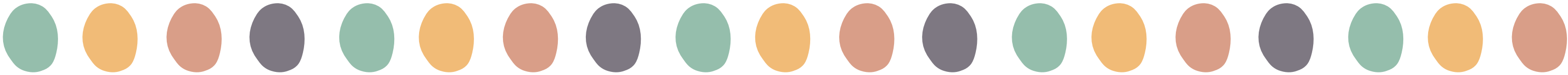
	Autumn 1			Autumn 2			Spring 1			Spring 2			Summer 1			Summer 2		
Unit	1	2	3		4	5		6	7		8	9	10	11	12			

	Number and place value
	Number facts
	Addition and subtraction
	Multiplication and division
	Fractions
	Geometry
	Other

Spring 2	Addition and subtraction of fractions and mixed numbers (within a whole)
Ready to progress	4F-1 Reason about the location of mixed numbers in the linear number system. 4F-2 Convert mixed numbers to improper fractions and vice versa. 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.
NCETM documents	FROM TEACHING POINT 4 TO 5 35 Working across one whole: improper fractions and mixed numbers https://www.ncetm.org.uk/media/vuhkoxxd/ncetm_spine3_segment05_y4.pdf
Small steps	To make efficient choices about the order you calculate when solving addition problems. To make efficient choices about the order when solving subtraction problems. To express an amount of quarters as a mixed number and an improper fraction. To express an amount of fifths as a mixed number and an improper fraction. To express a quantity as a mixed number and an improper fraction.
Links	NCETM- https://www.ncetm.org.uk/classroom-resources/primm-305-working-across-one-whole-improper-fractions-and-mixed-numbers/ OAK https://www.thenationalacademy/teachers/programmes/maths-primary-ks2/units/addition-and-subtraction-of-fractions-and-mixed-numbers-within-a-whole/lessons?sid=3b723d=P_UkFMiggs&sm=0&src=3 WHITE ROSE https://whiteroseeducation.com/resources?year=year-4-new&subject=maths Mastery with greater depth https://www.ncetm.org.uk/media/x45na0cs/mastery_assessment_y4.pdf
Reasoning	Spot the mistake sixty tenths, seventy tenths, eighty tenths, ninety tenths, twenty tenths ... and correct it. 1. What comes next? 83/100, 82/100, 81/100, 31/100, 41/100, 51/100, What do you notice? 1/10 of 100 = 10 1/100 of 100 = 1 2/10 of 100 = 20 2/100 of 100 = 2 How can you use this to work out 6/10 of 200? 6/100 of 200? True or false? 1/20 of a metre = 20cm 4/100 of 2 metres = 40cm Missing symbol Put the correct symbol < or > in each box 3.03 3.33 0.37 0.32 What needs to be added to 3.23 to give 3.53? What needs to be added to 3.16 to give 3.2? Do, then explain Circle each decimal which when rounded to the nearest whole number is 5. 5.3 5.7 5.2 5.8 Explain your reasoning



	Addition and subtraction of fractions and mixed numbers (within a whole)
Problem solving	Click on me
Glossary	- Mixed number - A mixed number is a whole number and a fraction combined. - Improper fraction - An improper fraction is a fraction where the numerator is greater than or equal to the denominator.
Stem sentences	The parts are _____ and _____. The total or whole is _____. EG the parts are 2/5 and 1 1/5. The total or whole is 1 3/5.
Representations	Numberline: Area model: Part-part-whole model: Sequence of completed equations: $\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$$1\frac{1}{5} + \frac{2}{5} = 1\frac{3}{5}$$2\frac{1}{5} + \frac{2}{5} = 2\frac{3}{5}$$3\frac{1}{5} + \frac{2}{5} = 3\frac{3}{5}$ Completed models showing patterns: $\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$$1\frac{1}{5} + \frac{2}{5} = 1\frac{3}{5}$$2\frac{1}{5} + \frac{2}{5} = 2\frac{3}{5}$$3\frac{1}{5} + \frac{2}{5} = 3\frac{3}{5}$$4\frac{1}{5} + \frac{2}{5} = 4\frac{3}{5}$ Sequence of completed equations: $\frac{7}{8} - \frac{2}{8} = \frac{5}{8}$$1\frac{7}{8} - \frac{2}{8} = 1\frac{5}{8}$$2\frac{7}{8} - \frac{2}{8} = 2\frac{5}{8}$$3\frac{7}{8} - \frac{2}{8} = 3\frac{5}{8}$$4\frac{7}{8} - \frac{2}{8} = \square$$\frac{7}{8} - \frac{2}{8} = \frac{5}{8}$$1\frac{7}{8} - \frac{2}{8} = 1\frac{5}{8}$$2\frac{7}{8} - \frac{2}{8} = 2\frac{5}{8}$$3\frac{7}{8} - \frac{2}{8} = 3\frac{5}{8}$$4\frac{7}{8} - \frac{2}{8} = \square$

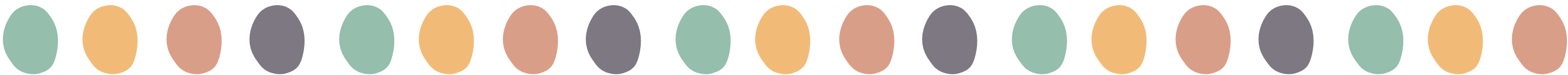


Y4- Overview

	Autumn 1			Autumn 2			Spring 1			Spring 2			Summer 1			Summer 2		
Unit	1	2	3		4	5		6	7		8	9	10	11	12			

	Number and place value
	Number facts
	Addition and subtraction
	Multiplication and division
	Fractions
	Geometry
	Other

Spring 2	Convert improper fractions to mixed numbers and vice versa
Ready to progress	4F-1 Reason about the location of mixed numbers in the linear number system. 4F-2 Convert mixed numbers to improper fractions and vice versa. 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.
NCETM documents	FROM TEACHING POINT 5 TO 6 35 Working across one whole: improper fractions and mixed numbers https://www.ncetm.org.uk/media/vuhkoxxd/ncetm_spine3_segment05_y4.pdf
Small steps	To convert a quantity from an improper fraction to a mixed number using quarters. To convert a quantity from an improper fraction to a mixed number using fifths. To explain how an improper fraction is converted into a mixed number. To explain how a mixed number is converted into an improper fraction. To solve problems involving converting between mixed numbers and improper fractions.
Links	NCETM- https://www.ncetm.org.uk/classroom-resources/primm-305-working-across-one-whole-improper-fractions-and-mixed-numbers/ OAK https://www.thenationalacademy/teachers/programmes/maths-primary-ks2/units/convert-improper-fractions-to-mixed-numbers-and-vice-versa/lessons?sid-clddb5=ILLIOvs6ZU&sm=0&src=3 WHITE ROSE https://whiteroseeducation.com/resources?year=year-4-new&subject=maths Mastery with greater depth https://www.ncetm.org.uk/media/x45na0cs/mastery_assessment_y4.pdf
Reasoning	Spot the mistake sixty tenths, seventy tenths, eighty tenths, ninety tenths, twenty tenths ... and correct it. 1. What comes next? 83/100, 82/100, 81/100, 31/100, 41/100, 51/100, What do you notice? 1/10 of 100 = 10 1/100 of 100 = 1 2/10 of 100 = 20 2/100 of 100 = 2 How can you use this to work out 6/10 of 200? 6/100 of 200? True or false? 1/20 of a metre = 20cm 4/100 of 2 metres = 40cm Missing symbol Put the correct symbol < or > in each box 3.03 3.33 0.37 0.32 What needs to be added to 3.23 to give 3.53? What needs to be added to 3.16 to give 3.2? Do, then explain Circle each decimal which when rounded to the nearest whole number is 5. 5.3 5.7 5.2 5.8 Explain your reasoning



Convert improper fractions to mixed numbers and vice versa

Problem solving

Click on me

- Glossary
- Mixed number - A mixed number is a whole number and a fraction combined.
 - Improper fraction - An improper fraction is a fraction where the numerator is greater than or equal to the denominator.

Stem sentences

Each whole is divided into four equal parts. We have _____ of these equal parts. This represents _____ quarters.

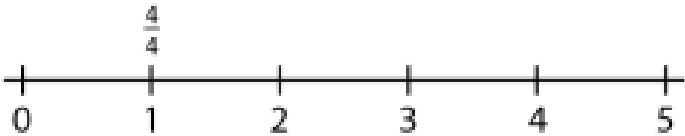
There are _____ - groups of four-quarters which is _____ -quarters and _____ more quarters, so that is _____ -quarters.
E.G for 2 1/4 - There are two groups of four quarters which is eight quarters, and one more quarter, so that is nine-quarters.

The denominator is _____. This means that each whole has been split into _____ equal parts. _____ parts make each whole.
The numerator is _____. This means there are _____ equal parts.
It is possible to make _____ full groups of _____ -quarters and there are _____ more quarters.

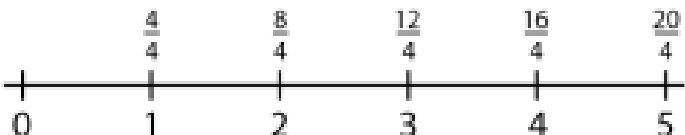
Representations

Say	Write
'Each whole orange is divided...'	Draw the fraction bar.
'...into two equal parts.'	Write the denominator: 2
'And we have five of those parts.'	Write the numerator: 5

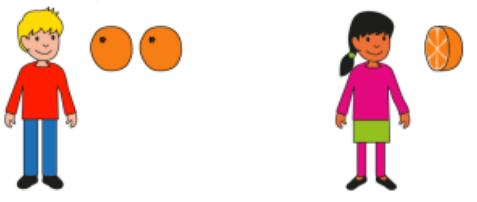
Showing $\frac{4}{4}$ on a number line:



Showing up to $\frac{20}{4}$ on a number line:



How many oranges are there altogether?

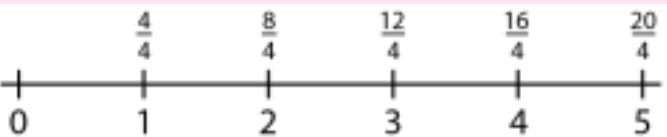


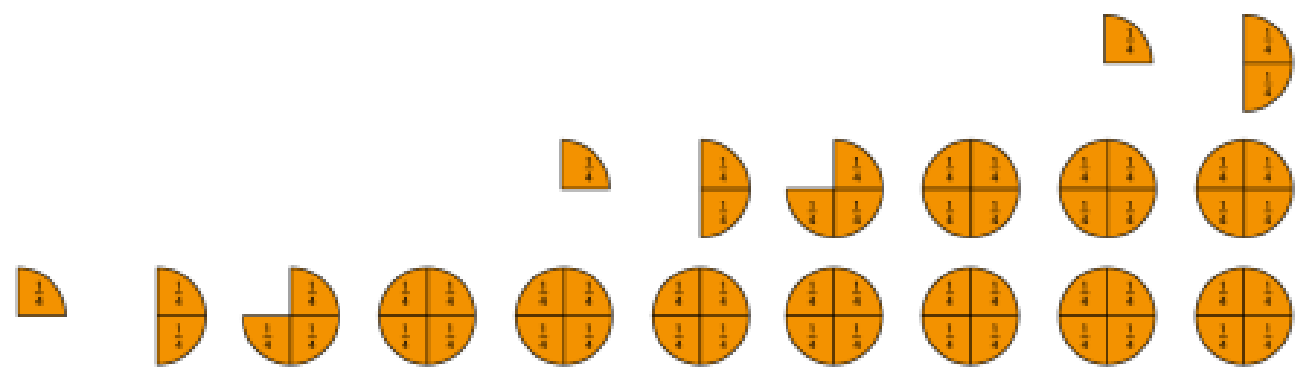
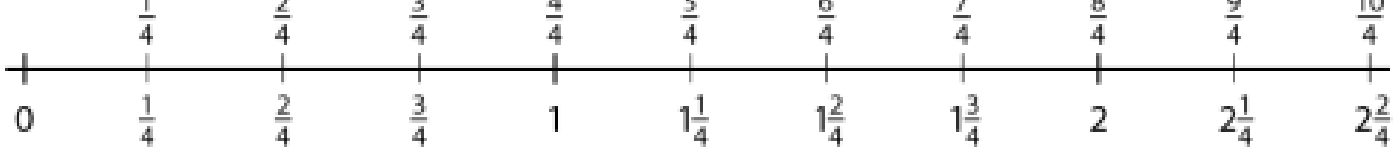
fraction bar

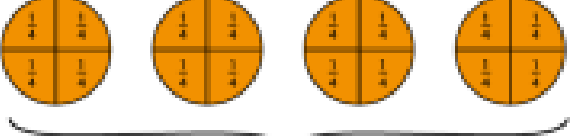
$\frac{5}{2}$ each whole orange splits into 2 parts

$\frac{5}{2}$ 5 halves

each whole orange splits into 2 parts



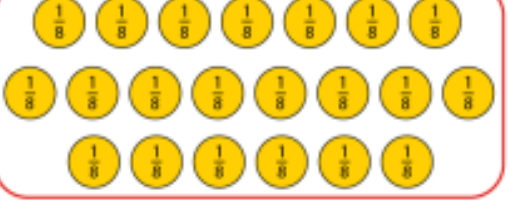




$\frac{16}{4}$

$\frac{1}{4} = 4\frac{1}{4}$

$\frac{1}{4} = \frac{17}{4}$



$\frac{21}{8}$

'Our unit is eighths so we will be thinking about groups of eight.'

'There are $\frac{8}{8}$ in one whole.'



1 1 5/8

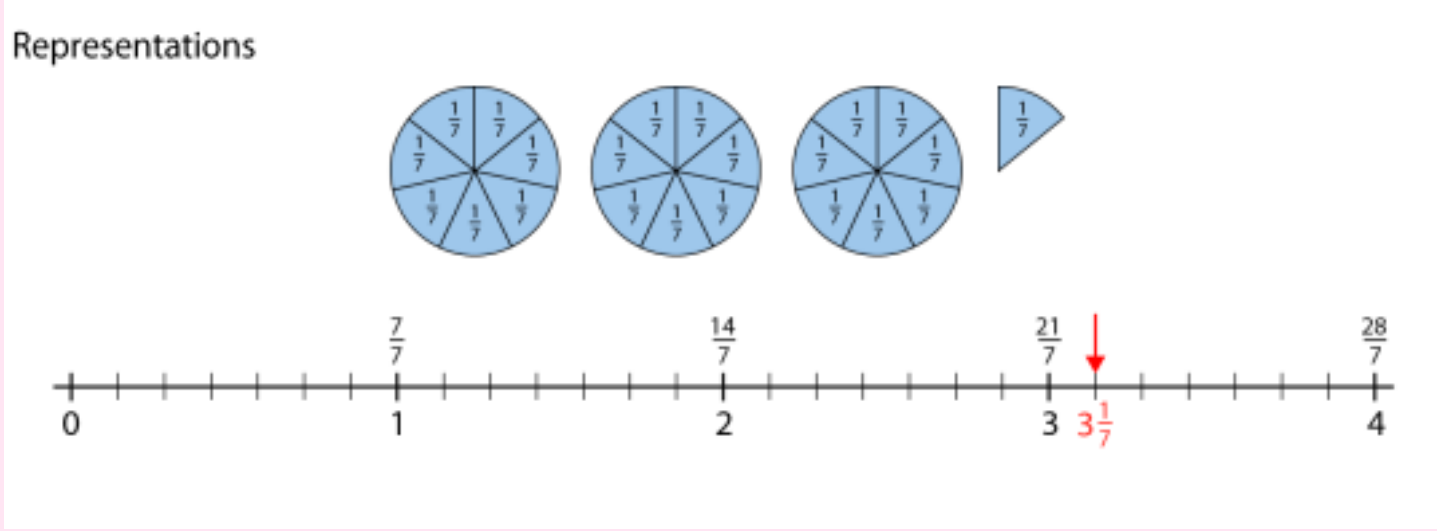
$$\frac{15}{3} = \square \frac{\square}{\square}$$

$$\frac{15}{3} = \square \frac{\square}{\square}$$

Representations

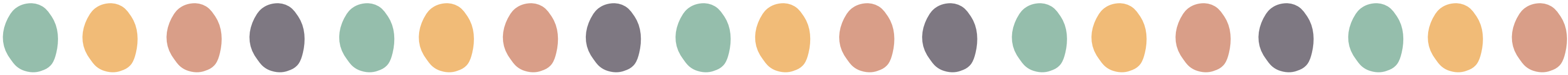
Three circles, each divided into 7 equal sectors, representing 1 whole each. A fourth circle is partially shown, showing 1 sector.

A number line from 0 to 4 with tick marks every $\frac{1}{7}$. Labels are at 0, 1, 2, 3, and 4. A red arrow points to the $\frac{21}{7}$ mark, which is labeled $3\frac{1}{7}$.



A visual fraction model. On the left, a yellow star and a blue circle are stacked vertically above a red square. To the right of this stack is an equals sign, followed by two empty square boxes stacked vertically, representing the numerator and denominator of a fraction.

Representations

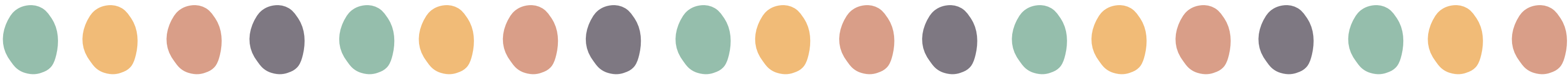


Y4- Overview

	Autumn 1			Autumn 2			Spring 1			Spring 2			Summer 1			Summer 2		
Unit	1	2	3		4	5		6	7		8	9	10	11	12			

	Number and place value
	Number facts
	Addition and subtraction
	Multiplication and division
	Fractions
	Geometry
	Other

Spring 2	Efficient strategies for adding and subtracting mixed numbers (crossing a whole)
Ready to progress	4F-1 Reason about the location of mixed numbers in the linear number system. 4F-2 Convert mixed numbers to improper fractions and vice versa. 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.
NCETM documents	FROM TEACHING POINT 6 TO THE END 3.5 Working across one whole: improper fractions and mixed numbers https://www.ncetm.org.uk/media/vuhkoxxd/ncetm_spine3_segment05_y4.pdf
Small steps	To add mixed number crossing the whole. To subtract a proper fraction from a mixed number crossing the whole. To subtract a mixed number from a mixed number explaining which strategy is most efficient. To choose efficient approaches when subtracting mixed numbers. To solve problems involving the addition and subtraction of mixed numbers.
Links	NCETM- https://www.ncetm.org.uk/classroom-resources/primm-305-working-across-one-whole-improper-fractions-and-mixed-numbers/ OAK https://www.thenationalacademy/teachers/programmes/maths-primary-ks2/units/efficient-strategies-for-adding-and-subtracting-mixed-numbers-crossing-a-whole/lessons?sid=2d670c=j7h2uyrsEE&sm=0&src=3 WHITE ROSE https://whiteroseeducation.com/resources?year=year-4-new&subject=maths Mastery with greater depth https://www.ncetm.org.uk/media/x45na0cs/mastery_assessment_y4.pdf
Reasoning	Spot the mistake sixty tenths, seventy tenths, eighty tenths, ninety tenths, twenty tenths ... and correct it. 1.What comes next? 83/100, 82/100, 81/100,,, 31/100, 41/100, 51/100,, What do you notice? 1/10 of 100 = 10 1/100 of 100 = 1 2/10 of 100 = 20 2/100 of 100 = 2 How can you use this to work out 6/10 of 200? 6/100 of 200? True or false? 1/20 of a metre= 20cm 4/100 of 2 metres = 40cm Missing symbol Put the correct symbol < or > in each box 3.03 3.33 0.37 0.32 What needs to be added to 3.23 to give 3.53? What needs to be added to 3.16 to give 3.2? Do, then explain Circle each decimal which when rounded to the nearest whole number is 5. 5.3 5.7 5.2 5.8 Explain your reasoning



Problem
solving



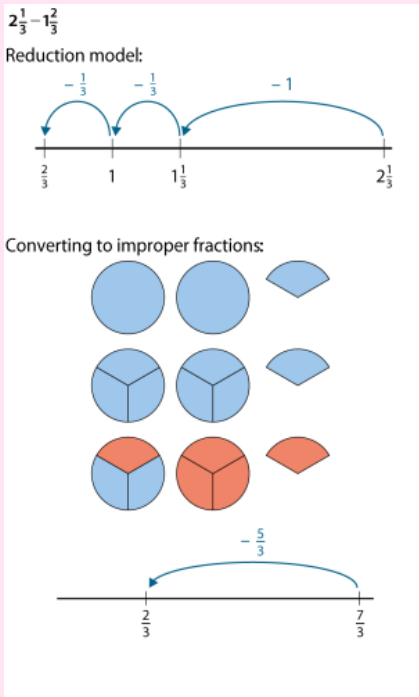
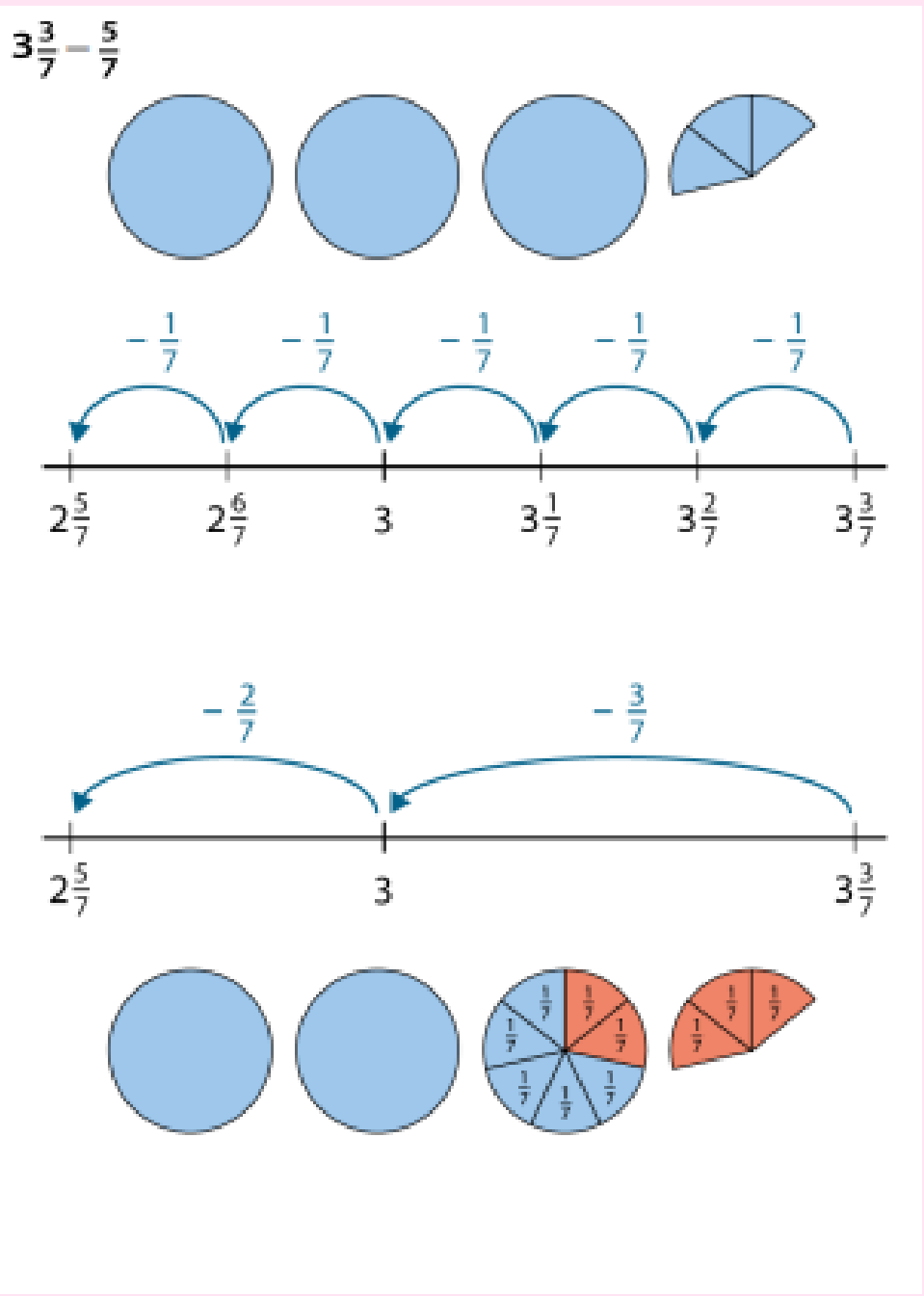
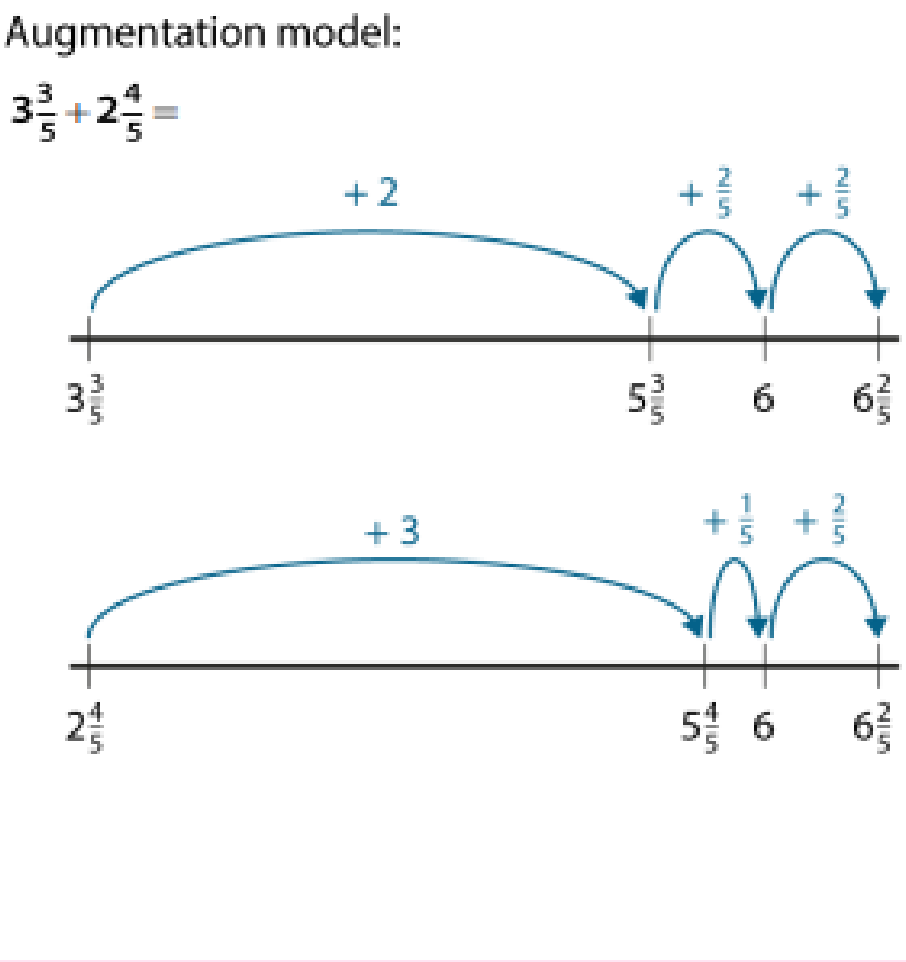
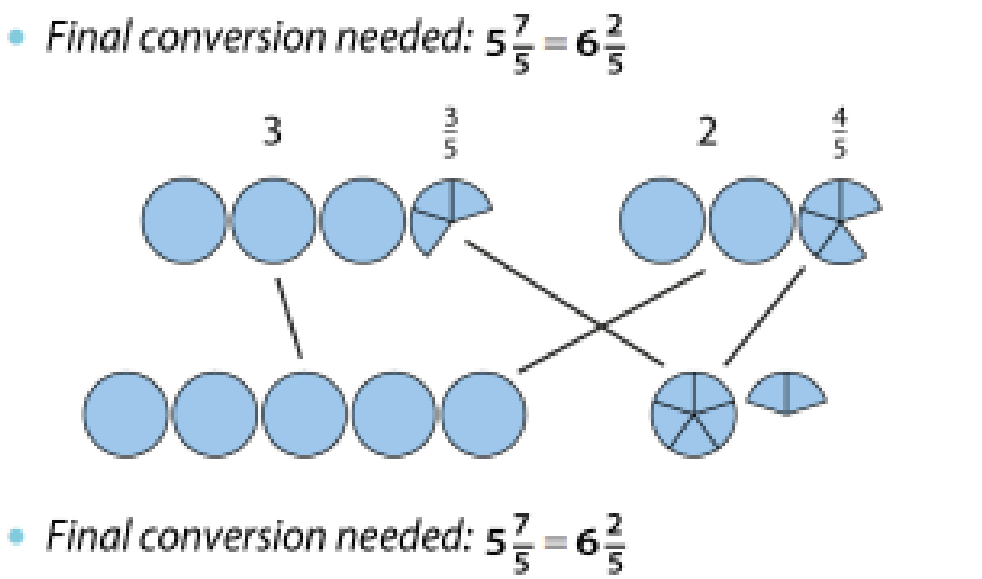
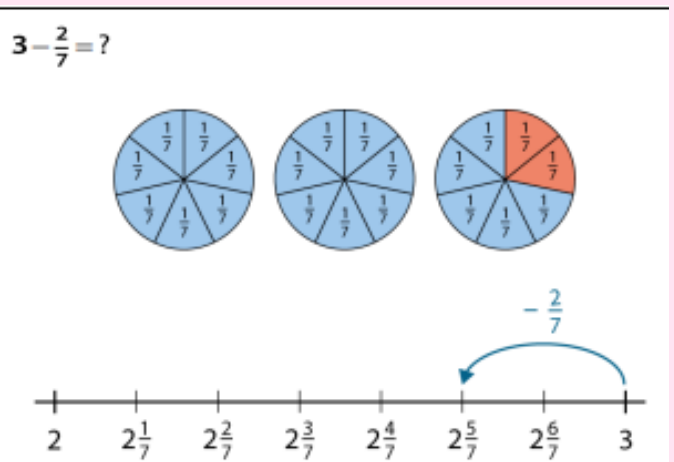
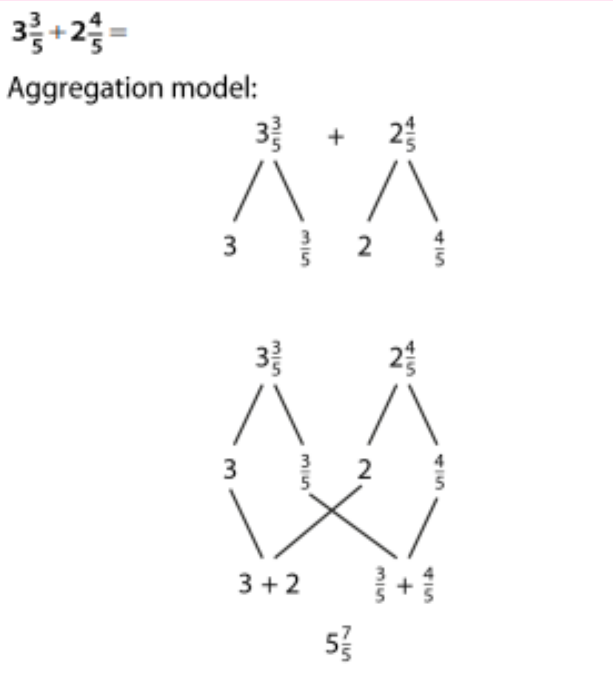
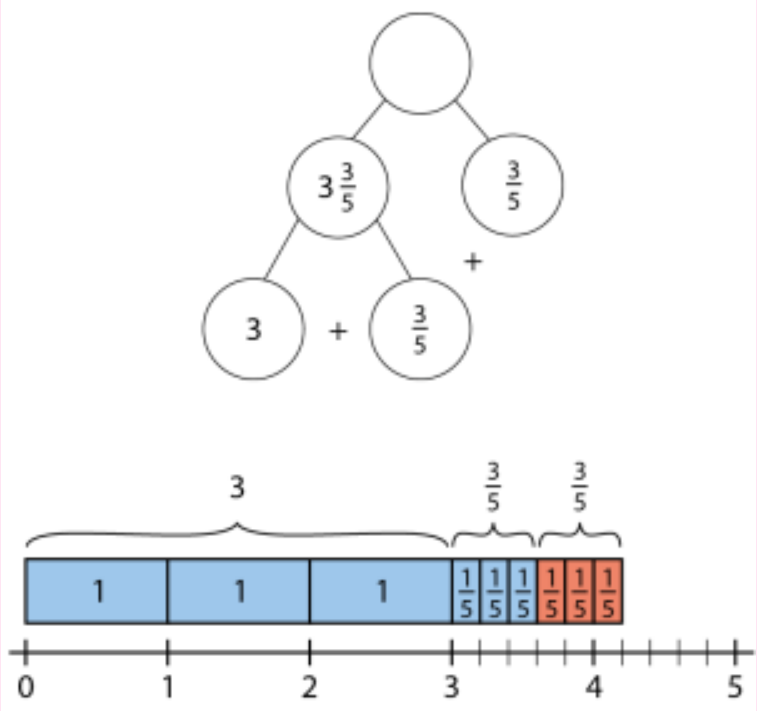
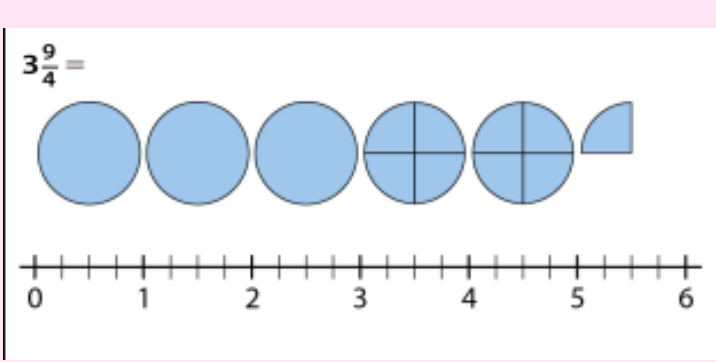
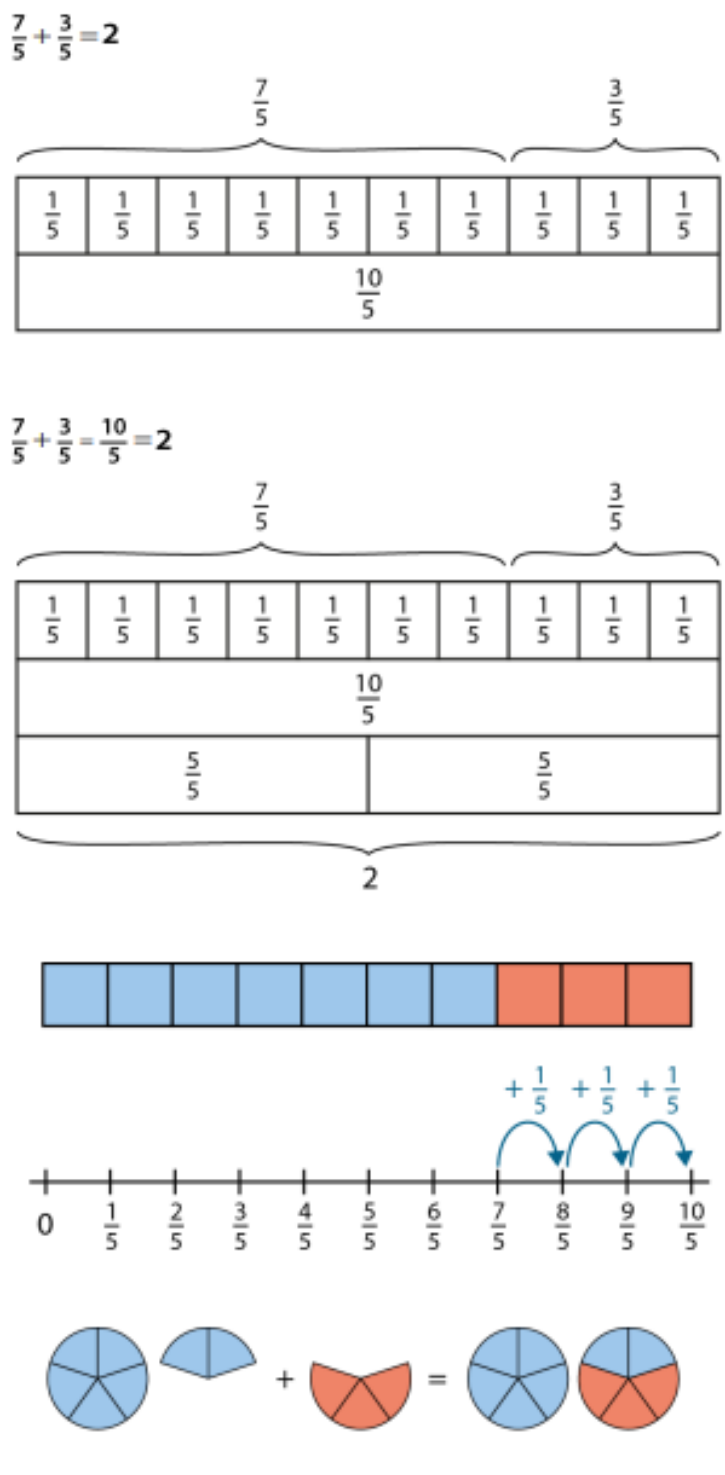
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Glossary

- Mixed number - A mixed number is a whole number and a fraction combined.
- Improper fraction - An improper fraction is a fraction where the numerator is greater than or equal to the denominator.
- Minuend - The minuend is the first number in a subtraction. The number from which another number is to be subtracted.
- Subtrahend - The subtrahend is the number that is to be subtracted. The second number in a subtraction.

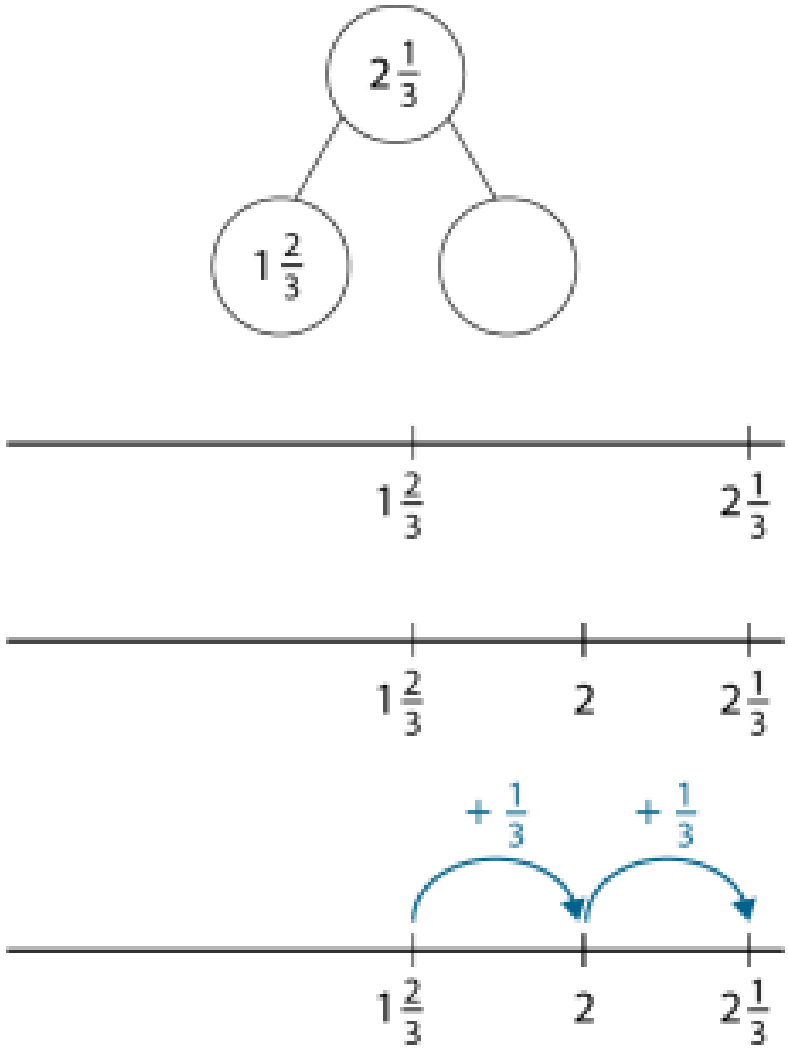
Stem sentences

Representations



Representations

Subtraction by finding the difference:



$2\frac{1}{3} - 1\frac{2}{3} = \frac{2}{3}$

$4\frac{2}{10} - 3\frac{7}{10} =$

