**9.2.21**     Fractions

Learning Objective:
We are learning to add fractions within 1

I will be successful if:
- I can use my knowledge of factors and multiples to help me see patterns between fractions.
- I can add fractions with a different denominator.
- I can use pictoral representations to make equivalent fractions and find common denominators.

# Key Vocabulary

fractions as part of a whole
equal
representations
shapes
quantities
numerator
denominator
non-unit and unit fractions
equivalent fractions

1)     Which is greater, $\frac{7}{5}$ or $\frac{11}{10}$?

2)     Change $\frac{5}{8}$ to sixteenths.

3)     Divide 2,592 by 6

4)     What is the value of the 4 in the number 8.41?

White Rose Maths

Challenge
5) 6 less than -12
6) 8 more than -20
7) 3 less than 2
8) 13 less than 3

1) Which is greater, $\frac{7}{5}$ or $\frac{11}{10}$?    $\frac{7}{5}$

2) Change $\frac{5}{8}$ to sixteenths.    $\frac{10}{16}$

3) Divide 2,592 by 6    432

4) What is the value of the 4 in the number 8.41?

4 tenths

White Rose Maths

<u>Challenge</u>
5) 6 less than -12    -18
6) 8 more than -20   -12
7) 3 less than 2    -1
8) 13 less than 3   -10

Yesterday, we looked at how to add fractions with the same denominator.

Today, we will look at how we add fractions if the denominator is not the same.
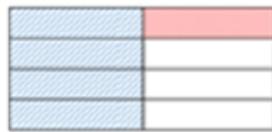
For example: $\frac{1}{2} + \frac{2}{6}$

What have we learnt to do previously, that could help us with this?

We can find equivalent fractions so that they have the same denominator.

Mo is calculating $\frac{1}{2} + \frac{1}{8}$

He uses a diagram to represent the sum.

$$\frac{1}{2} + \frac{1}{8} = \frac{4}{8} + \frac{1}{8} = \frac{5}{8}$$

$\frac{1}{2}$ is the same as $\frac{4}{8}$
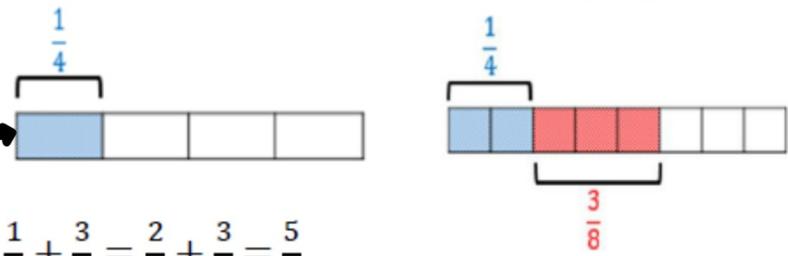
Use Mo's method to solve :

$$\frac{1}{2} + \frac{3}{8} \qquad \frac{1}{4} + \frac{3}{8} \qquad \frac{7}{10} + \frac{1}{5}$$

You don't have to draw a diagram, but you can if it helps you.

Rosie is using a bar model to solve $\frac{1}{4} + \frac{3}{8}$

$\frac{1}{4}$

$\frac{1}{4}$

$\frac{3}{8}$

$\frac{1}{4} + \frac{3}{8} = \frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

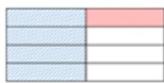$\frac{1}{4}$ is the same as $\frac{2}{8}$

Use a bar model to solve:

$\frac{1}{6} + \frac{5}{12}$     $\frac{2}{9} + \frac{1}{3}$     $\frac{1}{3} + \frac{4}{15}$
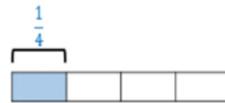
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$\frac{1}{4}$

$\frac{1}{4}$

$\frac{3}{8}$

$$\frac{1}{4} + \frac{3}{8} = \frac{2}{8} + \frac{3}{8} = \frac{5}{8}$$

Which method do you prefer and why?

How do the methods support finding a common denominator?

<u>9.2.21</u>

Have a go at the questions on the sheet attached.

# Reasoning challenges

Two children are solving $\frac{1}{3} + \frac{4}{15}$

Eva starts by drawing this model:

Alex starts by drawing this model:

Can you explain each person's method and how they would complete the question?
Which method do you prefer and why?

$$\frac{5}{16} + \frac{\boxed{\phantom{0}}}{8} = \frac{15}{16}$$

$$\frac{\boxed{\phantom{0}}}{20} + \frac{7}{10} = \frac{17}{20}$$

To add fractions, first make sure that the numerators of each fraction are the same.

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Annie solved this calculation.

$$\frac{3}{4} + \frac{3}{16} = \frac{3+3}{4+16}$$
$$= \frac{6}{20}$$
$$= \frac{3}{10}$$

Can you spot and explain her mistake?