

Subtract from whole amounts

Notes and guidance

This small step links the previous step and the next step together, helping children to make links between subtracting fractions and subtracting mixed numbers and fractions.

Children need to know how many equal parts are equivalent to the whole and how this relates to whole numbers greater than 1. They use bar models and explore subtracting from the whole, initially when it is written as a fraction, for example $\frac{9}{9}$, rather than 1. They subtract from whole numbers greater than 1, comparing subtracting the fraction from one of the wholes with using improper fractions.

Number lines are also used in this step, and children explore the difference between taking away and finding the difference.

Things to look out for

- Some children may not be efficient when converting whole numbers into fractions.
- Children may know that $1 = \frac{10}{10}$ but may not be as confident that $3 = \frac{30}{10}$
- Children may subtract the numerator from the whole, for example $4 - \frac{1}{5} = \frac{3}{5}$

Key questions

- How many _____ are equal to 1 whole/2 wholes/5 wholes?
- What is the connection between the numerator in the question and the numerator in the answer when you subtract a fraction from 1?
- How can you show the problem using a bar model/number line?
- How many of the wholes are affected when you subtract a fraction?
- How can you partition the whole number to help with the subtraction?

Possible sentence stems

- $1 - \frac{\square}{\square} = \frac{\square}{\square}$, so $2 - \frac{\square}{\square} = 1 \frac{\square}{\square}$
- If the denominators are the same, to subtract the fractions I need to subtract the _____
- 1 whole is equal to $\frac{\square}{\square}$, so wholes are equal to $\frac{\square}{\square}$

National Curriculum links

- Add and subtract fractions with the same denominator

Subtract from whole amounts

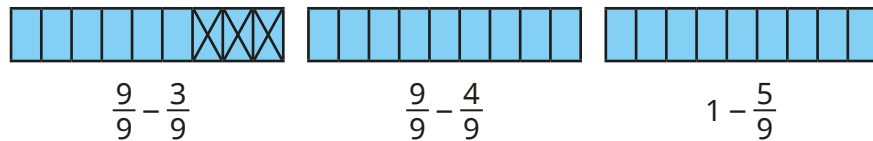
Key learning

- Convert the whole numbers into fractions.

$$1 = \frac{\square}{3} \quad 1 = \frac{\square}{5} \quad 2 = \frac{\square}{5} \quad 2 = \frac{\square}{10} \quad 5 = \frac{\square}{10}$$

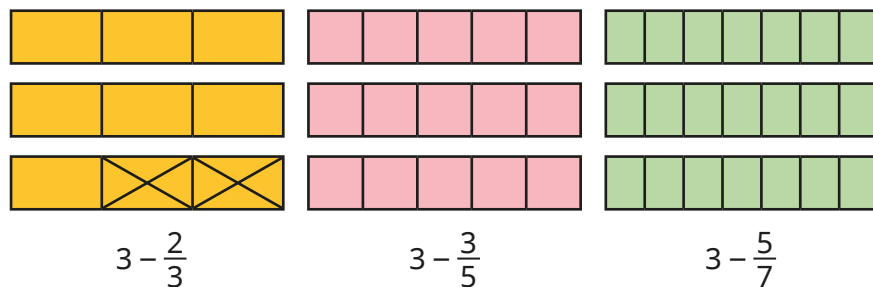
What do you notice?

- Use the diagrams to work out the subtractions.



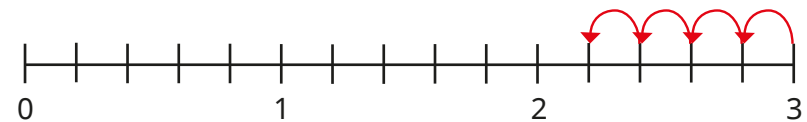
What is the same? What is different?

- Use the bar models to work out the subtractions.



Compare answers with a partner.

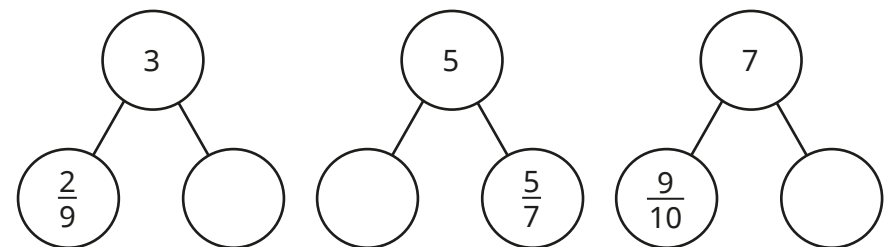
- Jo uses a number line to find $3 - \frac{4}{5} = 2\frac{1}{5}$



Use Jo's method to work out the subtractions.



- Complete the part-whole models.

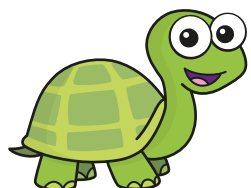


- Huan has 5 m of ribbon.
He cuts off $\frac{3}{5}$ m to give to Dani.
How much ribbon is left?

Subtract from whole amounts

Reasoning and problem solving

Tiny is subtracting a fraction from a whole number.



$$5 - \frac{3}{7} = \frac{2}{7}$$

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

What mistake has Tiny made?

What is the correct answer?

Find as many ways as you can to complete the statement.

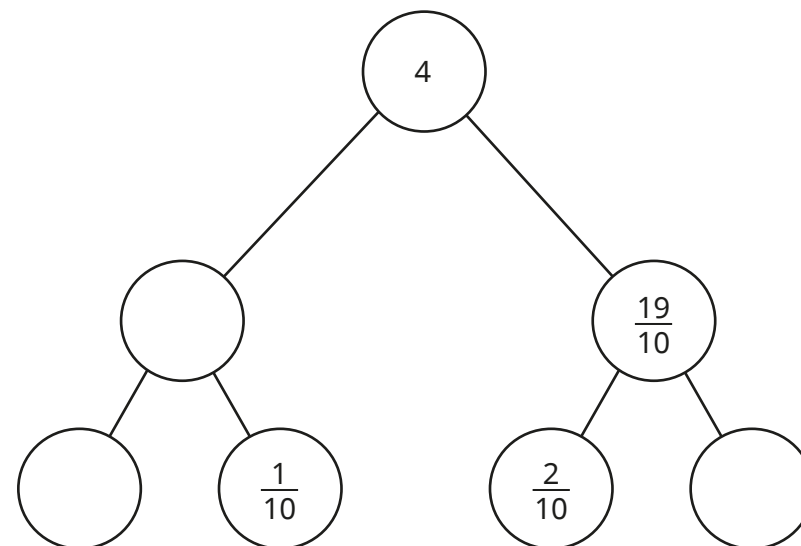
$$2 - \frac{\square}{8} = \frac{5}{8} + \frac{\square}{8}$$

multiple possible answers, e.g.

$$2 - \frac{1}{8} = \frac{5}{8} + \frac{10}{8}$$

$$2 - \frac{7}{8} = \frac{5}{8} + \frac{4}{8}$$

Complete the part-whole model.



$$\frac{21}{10} \text{ or } 2\frac{1}{10}$$

$$\frac{20}{10} \text{ or } 2 \quad \frac{17}{10} \text{ or } 1\frac{7}{10}$$