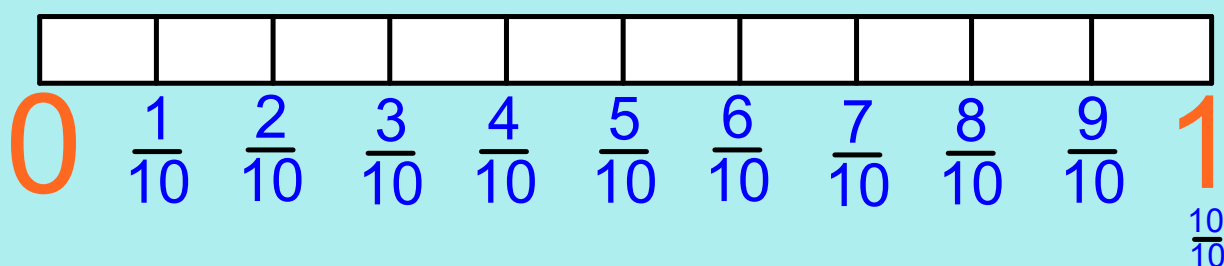
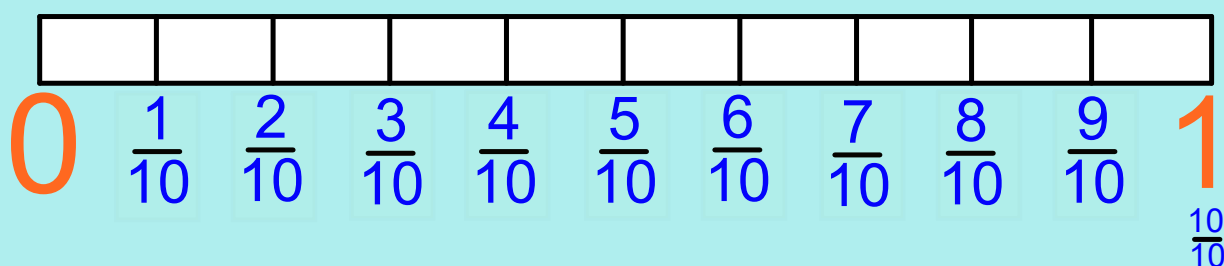


## Year 3 objectives

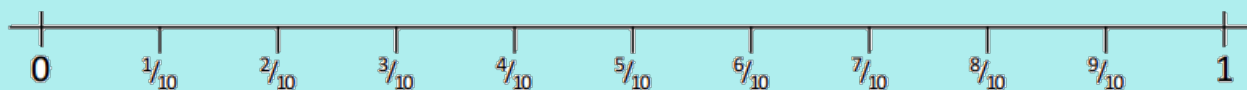
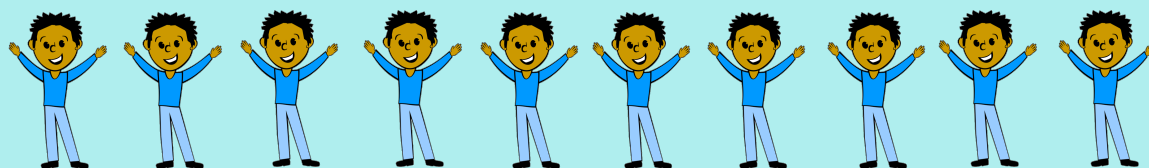
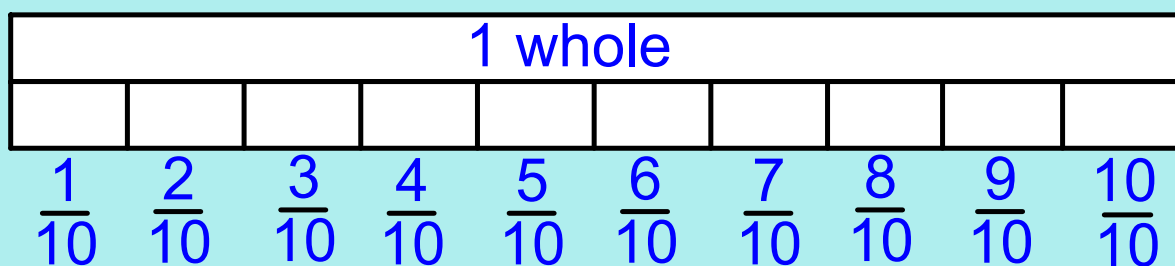
- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole (e.g.  $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ )
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above



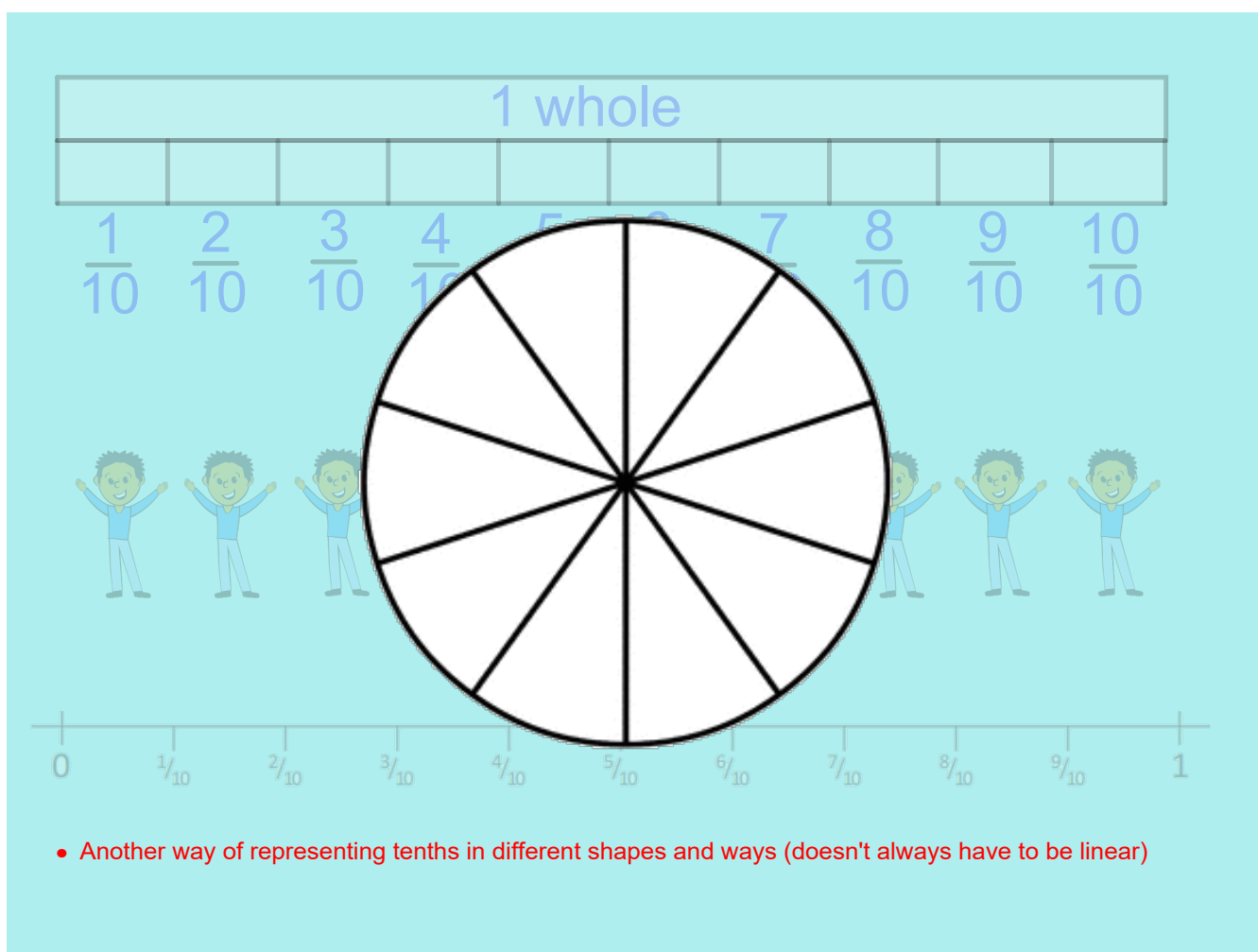
- Link to curriculum: recognise that tenths arise from dividing an object into 10 equal parts
- Count in steps of tenths
- Discuss that when you reach 10/10 this is the same as a whole. Ensure children have secure understanding



- Link to curriculum: recognise that tenths arise from dividing an object into 10 equal parts
- Count in steps of tenths
- Discuss that when you reach  $\frac{10}{10}$  this is the same as a whole. Ensure children have secure understanding
- As children gain fluency, hide fractions gradually (click the fractions to hide).



- Conceptual variation
- Show the children various ways of showing tenths
- Encourages fluency
- Use children as tenths (stand up at the front of the classroom)



Count on from...

$$\frac{1}{10}$$

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

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

$$1\frac{7}{10}$$

- Link to curriculum: counting on in tenths
- Introducing mixed numbers

Count back from...

$$\frac{10}{10}$$

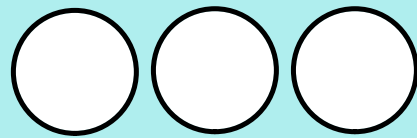
$$\frac{8}{10}$$

$$\frac{6}{10}$$

$$1 \frac{7}{10}$$

- Link to curriculum: counting back in tenths
- Introducing mixed numbers
- Discussion point: what happens when we reach 1 after  $1 \frac{1}{10}$ .

$\frac{1}{3}$  of 3

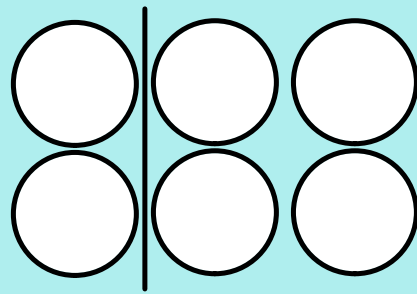


$\frac{2}{3}$  of 3

$\frac{3}{3}$  of 3

- Link to curriculum: find non-unit fractions of a discrete set of objects
- Keep the denominators small
- Repeat with any number that is a multiple of 3

$\frac{1}{3}$  of 6



$\frac{2}{3}$  of 6

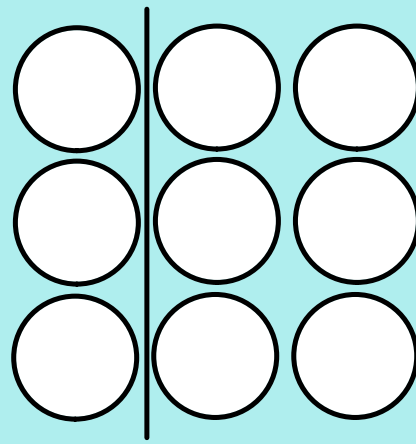
$\frac{3}{3}$  of 6

- Link to curriculum: find non-unit fractions of a discrete set of objects
- Keep the denominators small
- Repeat with any number that is a multiple of 3

$\frac{1}{3}$  of 9

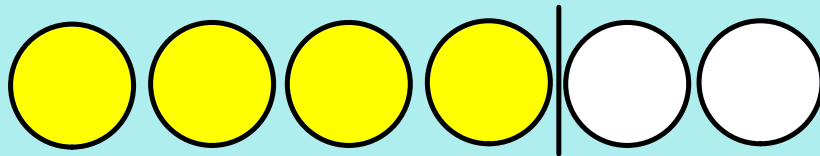
$\frac{2}{3}$  of 9

$\frac{3}{3}$  of 9



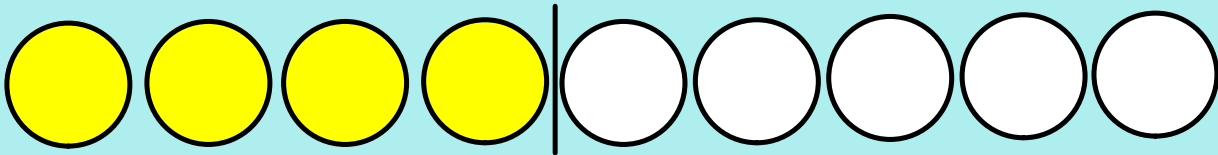
- Link to curriculum: find non-unit fractions of a discrete set of objects
- Keep the denominators small
- Repeat with any number that is a multiple of 3

# What fraction of 6 is 4?



- Link to curriculum: recognise and use fractions as numbers

# What fraction of 9 is 4?

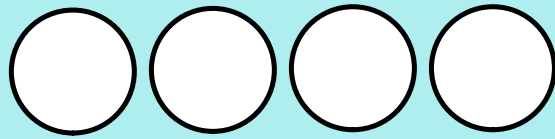


- Link to curriculum: recognise and use fractions as numbers

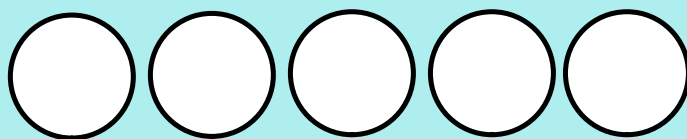
# Represent 6 as a fraction of 9

$$\frac{6}{9}$$

- Link to curriculum: recognise and use fractions as numbers
- Children to show 6/9 in as many ways as they can: by dividing a circle / rectangle for example. Drawing objects and colouring in 6 is another example
- Assess what the children come up with

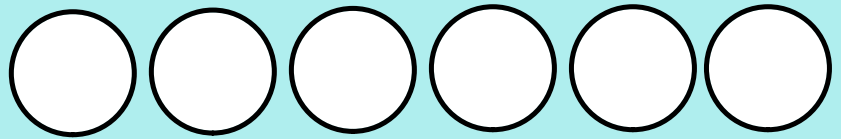
$\frac{1}{4}$  of 4 $\frac{2}{4}$  of 4 $\frac{3}{4}$  of 4 $\frac{4}{4}$  of 4

- Link to curriculum: find non-unit fractions of a discrete set of objects
- Keep the denominators small
- Repeat with any number that is a multiple of 4

$\frac{1}{5}$  of 5 $\frac{2}{5}$  of 5 $\frac{3}{5}$  of 5

- Link to curriculum: find non-unit fractions of a discrete set of objects
- Keep the denominators small
- Repeat with any number that is a multiple of 5

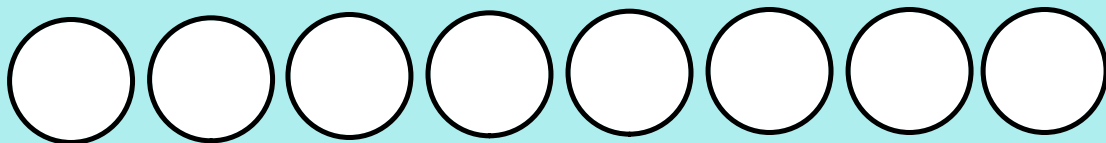
 $\frac{4}{5}$  of 5 $\frac{5}{5}$  of 5

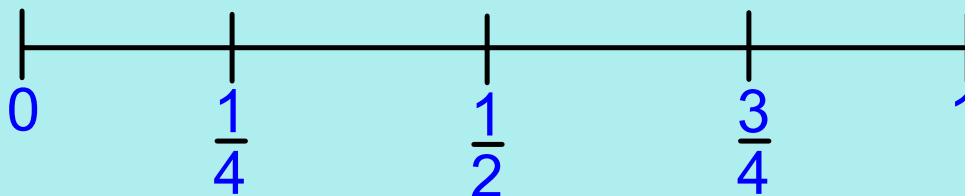
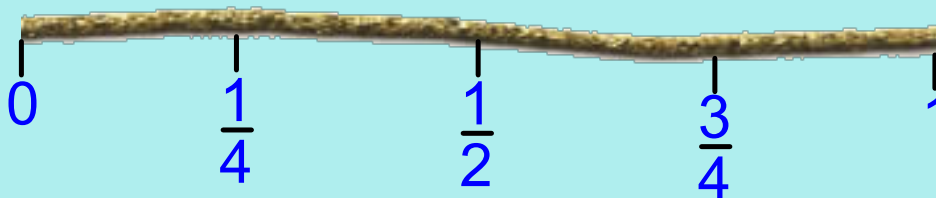
$\frac{1}{6}$  of 6 $\frac{2}{6}$  of 6 $\frac{3}{6}$  of 6 $\frac{4}{6}$  of 6

- Link to curriculum: find non-unit fractions of a discrete set of objects
- Keep the denominators small
- Repeat with any number that is a multiple of 6

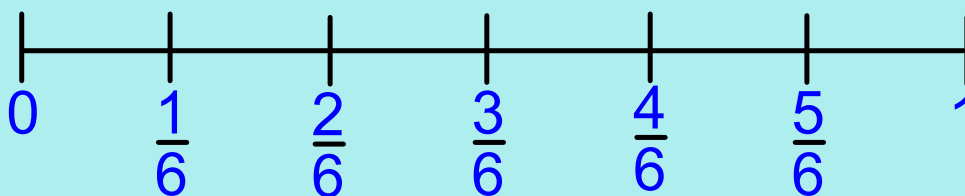
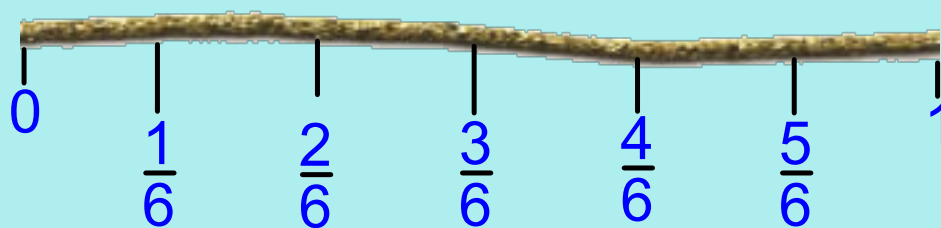
 $\frac{5}{6}$  of 6 $\frac{6}{6}$  of 6

Shade  $\frac{6}{8}$  of the circles:





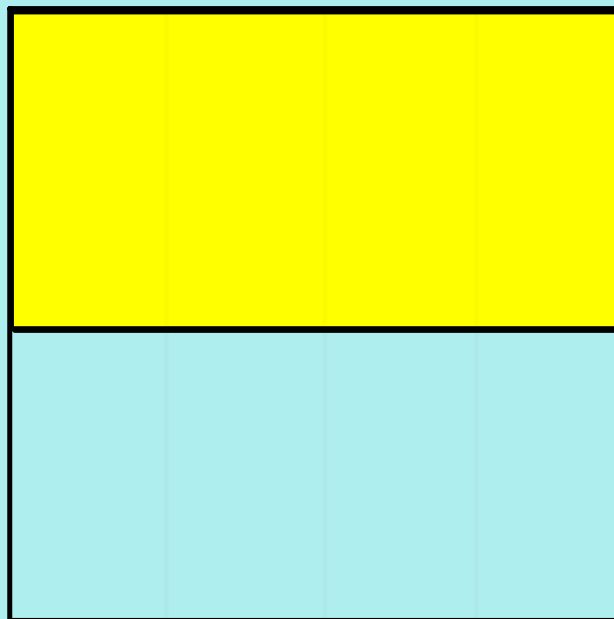
- Conceptual variation
- Show the children various ways of showing quarters
- Encourages fluency
- Relate to every day life (string)



- Conceptual variation
- Show the children various ways of showing sixths
- Encourages fluency
- Relate to every day life (string)

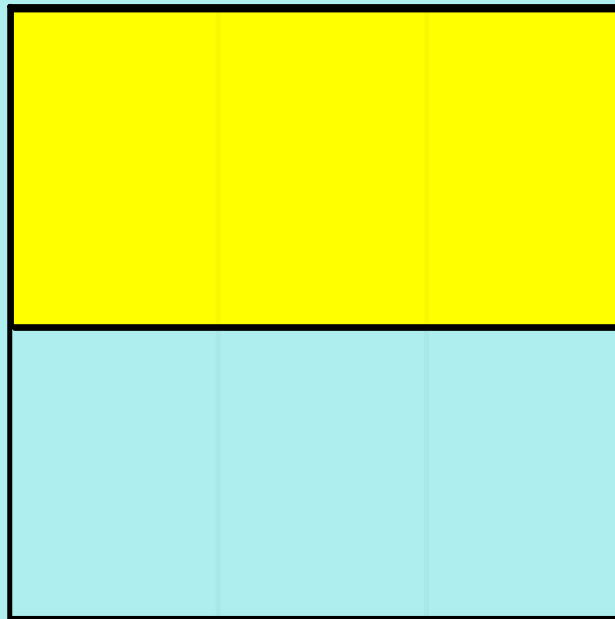
$$\frac{1}{2} \quad \frac{2}{4} \quad \frac{4}{8}$$

- Link to curriculum: recognise and show equivalent fractions
- Keep within the fraction families
- Click the faded lines to reveal the divide into quarters and eighths.



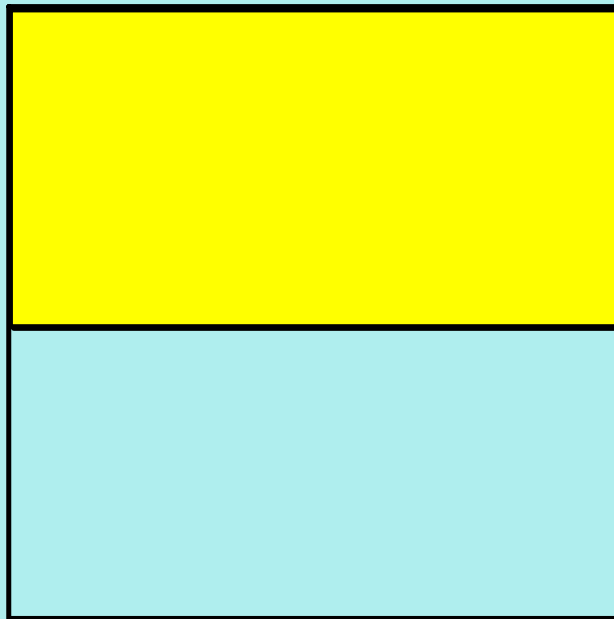
$$\frac{1}{2} \quad \frac{3}{6}$$

- Link to curriculum: recognise and show equivalent fractions
- Keep within the fraction families
- Click the faded lines to reveal the divide into sixths



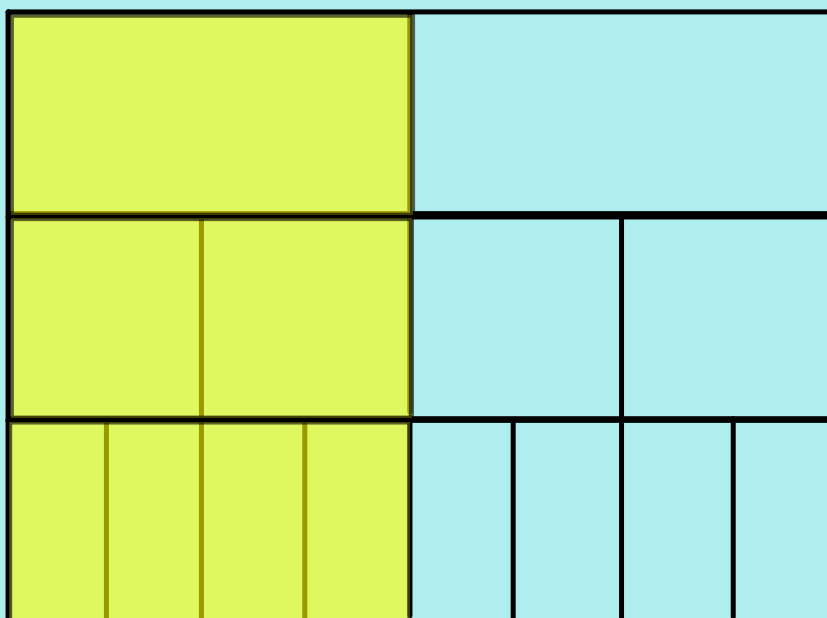
$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$$

- Link to curriculum: recognise and show equivalent fractions
- Use what the children have learnt in the previous pages
- What patterns can the children notice? Discuss



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

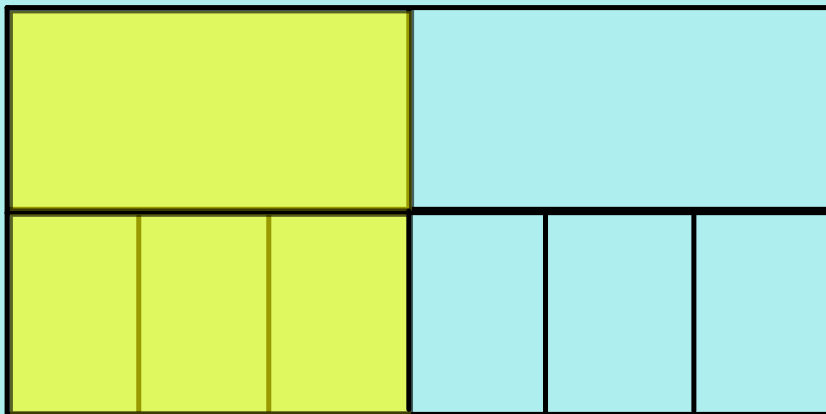
- Link to curriculum: recognise and show equivalent fractions
- Keep within the fraction families
- Show the fraction wall to guide fluency



What would come next?

$$\frac{1}{2} = \frac{3}{6}$$

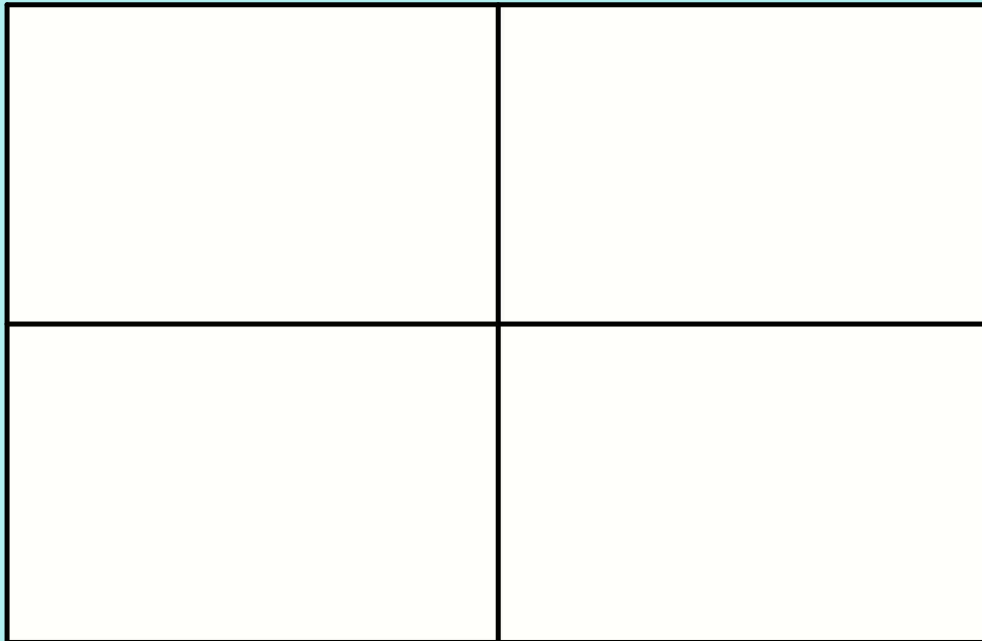
- Link to curriculum: recognise and show equivalent fractions
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- Show the fraction wall to guide fluency



What would come next?

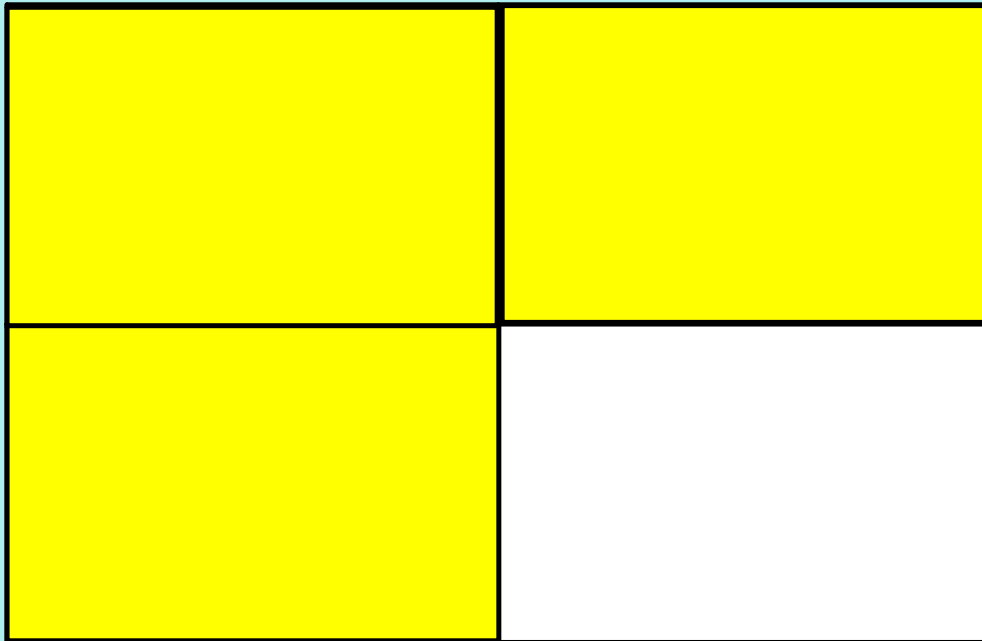
- Link to curriculum: add fractions with the same denominator
- Click any areas for it to be coloured in
- Discuss how the fraction will be written and why

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



- Link to curriculum: subtract fractions with the same denominator
- Click any areas for the colour to be taken away
- Discuss how the fraction will be written and why

$$\frac{3}{4} - \frac{1}{4} =$$



Order these fractions from smallest to largest:

$$\frac{4}{5} \quad \frac{2}{5} \quad \frac{3}{5}$$

- Link to curriculum: compare and order fractions with the same denominator

Order these fractions from smallest to largest:

$$\frac{5}{6} \quad \frac{2}{6} \quad \frac{1}{6}$$

- Link to curriculum: compare and order fractions with the same denominator

Order these fractions from smallest to largest:

$$\frac{4}{8} \quad \frac{7}{8} \quad \frac{2}{8}$$

- Link to curriculum: compare and order fractions with the same denominator

Order these fractions from smallest to largest:

$$\frac{1}{4} \quad \frac{1}{2} \quad \frac{1}{8}$$

- Link to curriculum: [compare and order unit fractions](#)

Fill in the blank numerator:

$$0 < \frac{\quad}{4} < \frac{\quad}{4} < 1$$

Explain your answer

- Link to curriculum: [compare and order fractions with the same denominator](#)

Fill in the blank denominator:

$$0 < \frac{1}{\quad} < \frac{1}{\quad} < 1$$

Explain your answer

- Link to curriculum: compare and order unit fractions

## True or false

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

$$\frac{1}{4} = \frac{2}{5} = \frac{3}{6}$$

Prove it

- Link to curriculum: recognise and show equivalent fractions

There are 3 pizzas to be eaten. What is the best number of people to share out the pizzas equally?

How many slices would each person have if there were 9 people?

Convince me

- Link to curriculum: solve problems involving all of the above
- Open ended: endless possibilities to the problem - use to prompt discussion

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