

Taking the Sting out of Fractions



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Assessing Fraction Understanding

- This instrument is based on the five Key Understandings from First Steps in Mathematics.
- It is available on the MAWA website.
- It is linked to the curriculum content descriptors of the current W.A. Curriculum.

Assessing Fraction Understanding

- The instrument was originally designed to be used in a one-on-one interview situation.
- It can be used as a formative or summative assessment.
- However, it could also be used as a group or class teaching task that could be preceded or followed up by a similar set of tasks.

Key Understanding 1

When we split something into two equal-sized parts, we say we have halved it and that each part is half the original thing.

W.A. Curriculum 2026: Key Related Content Descriptors: Year One

- **Recognise, describe and create a half by dividing a physical whole into two equal parts or a collection into two equal quantities**
- *Describing halves in context, sharing a collection of objects into two equal groups, cutting identical rectangular pieces of paper into two parts in different ways, and recognising that halves must consist of two equal parts*

Key Understanding 1

When we split something into two equal-sized parts, we say we have halved it and that each part is half the original thing.

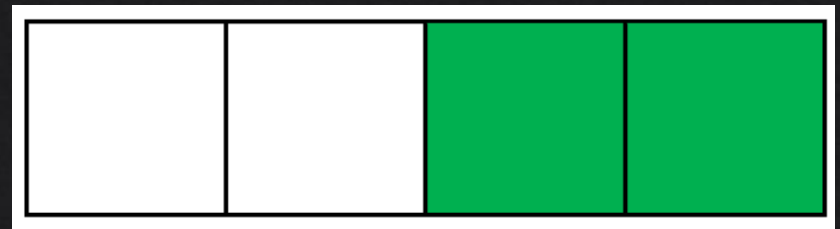
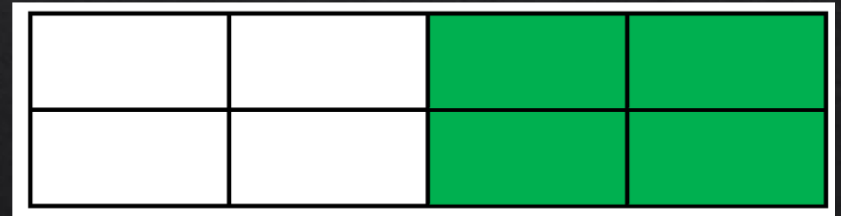
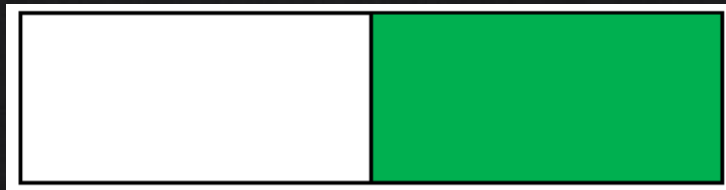
1. Draw me a half. How do you know it is a half?
2. Make me a half of this paper strip (15cm. coloured strip). How do you know it is a half?

Key Understanding 1

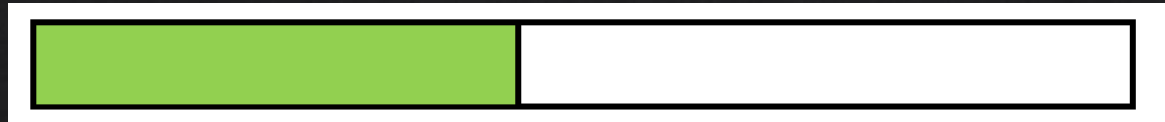
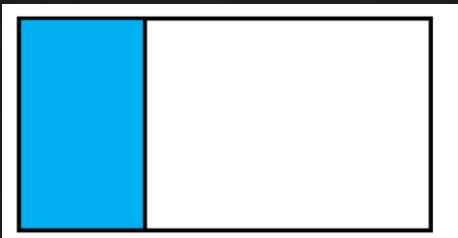
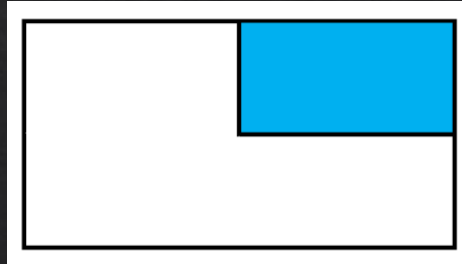
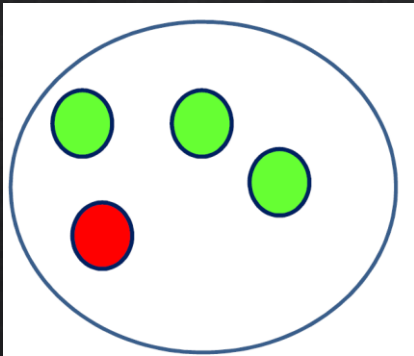
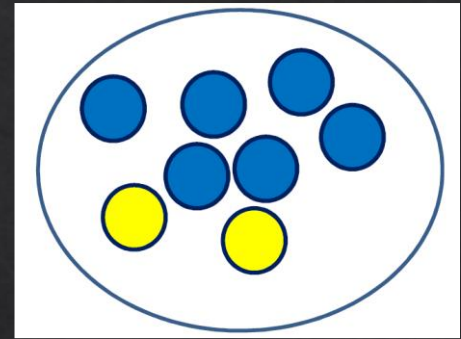
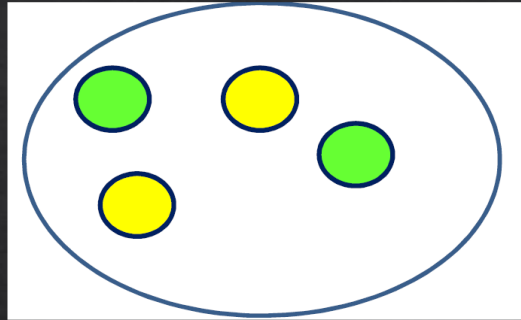
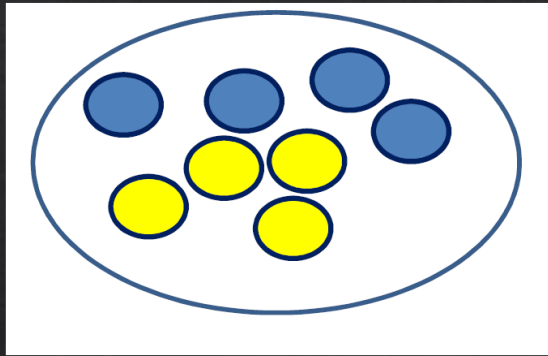
3. Share out a half of this set of counters (twelve). How do you know it is a half?
4. Write me a half using numbers.

Key Understanding 1

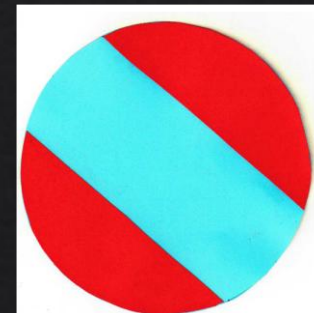
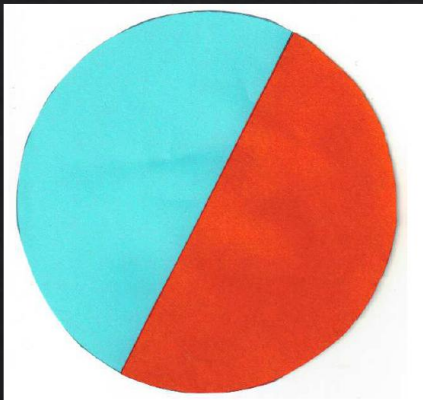
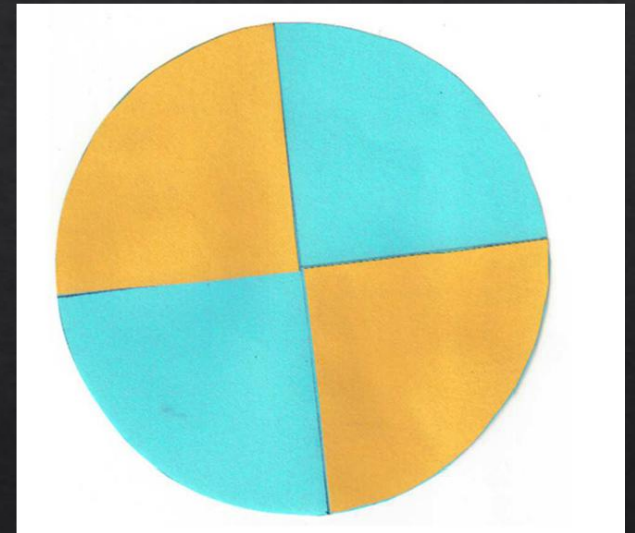
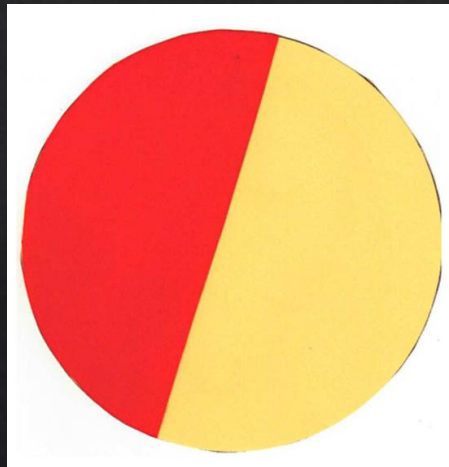
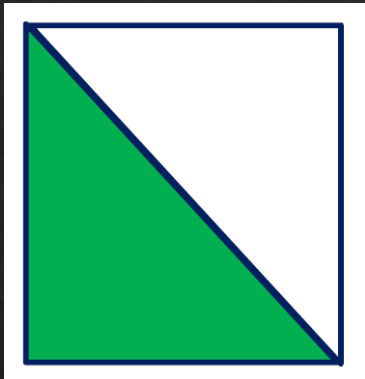
5. Sort these shapes so that all the shapes showing a half are together and the shapes that don't show a half are in another group. Why did you sort them that way?



Key Understanding 1

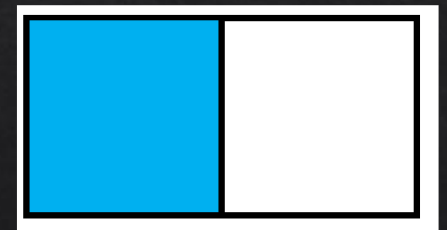
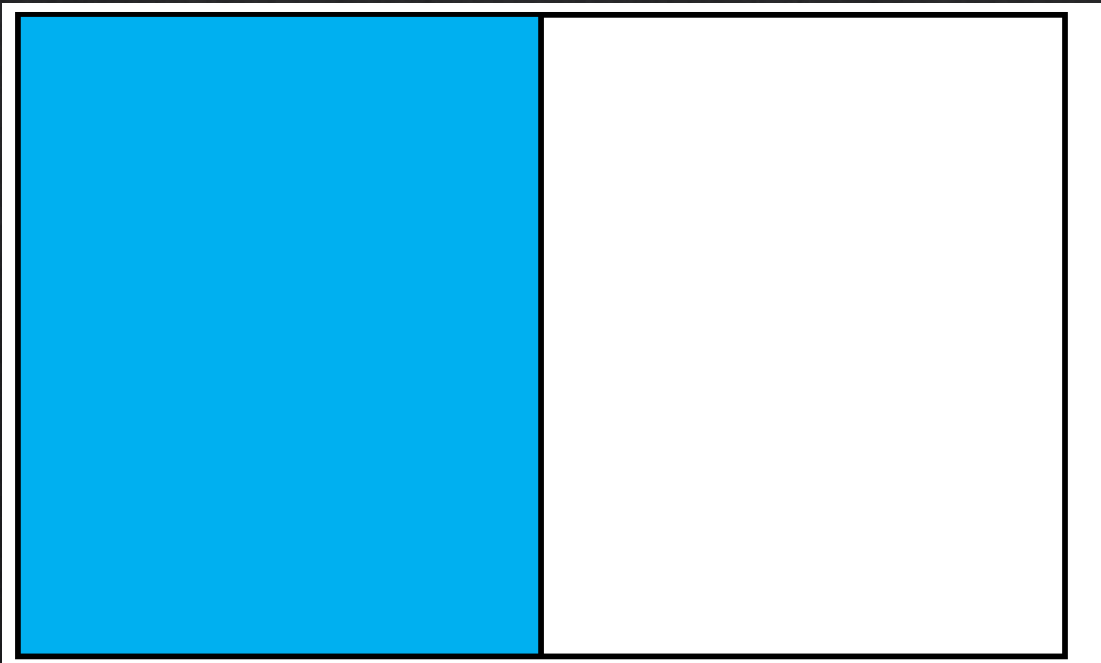


Key Understanding 1



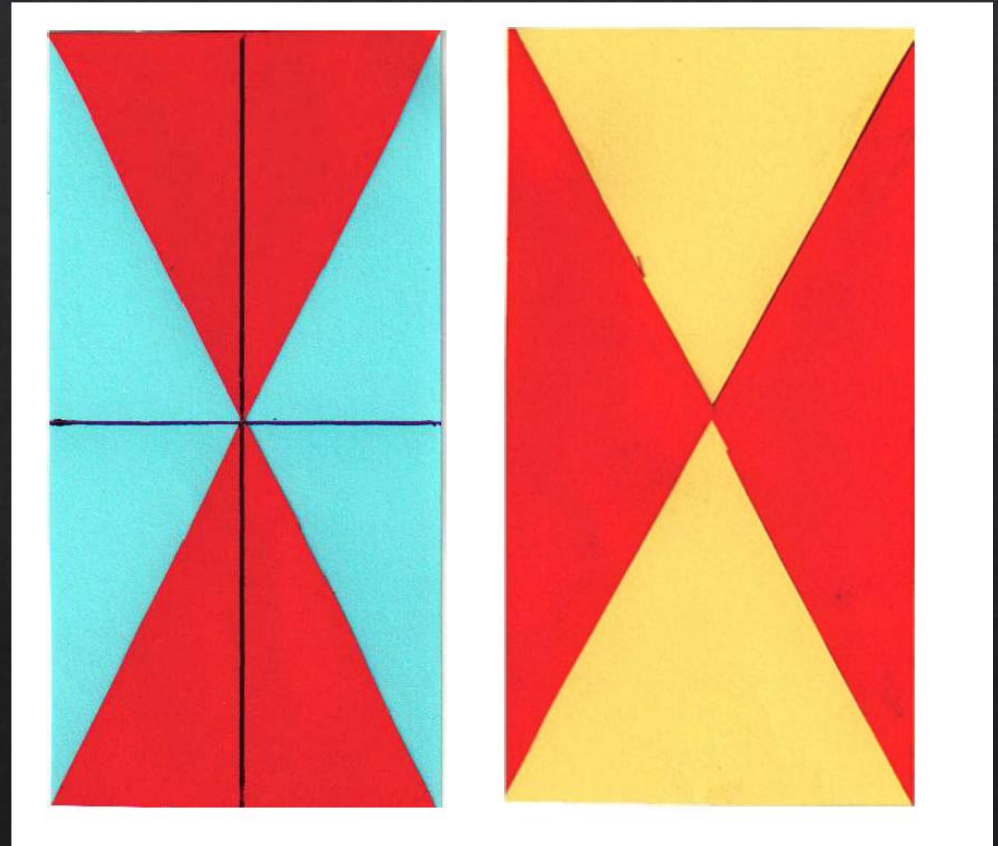
Key Understanding 1

6. Look at these two shapes with a part shaded blue. Does the blue part show a half in each case? Please explain your answer.



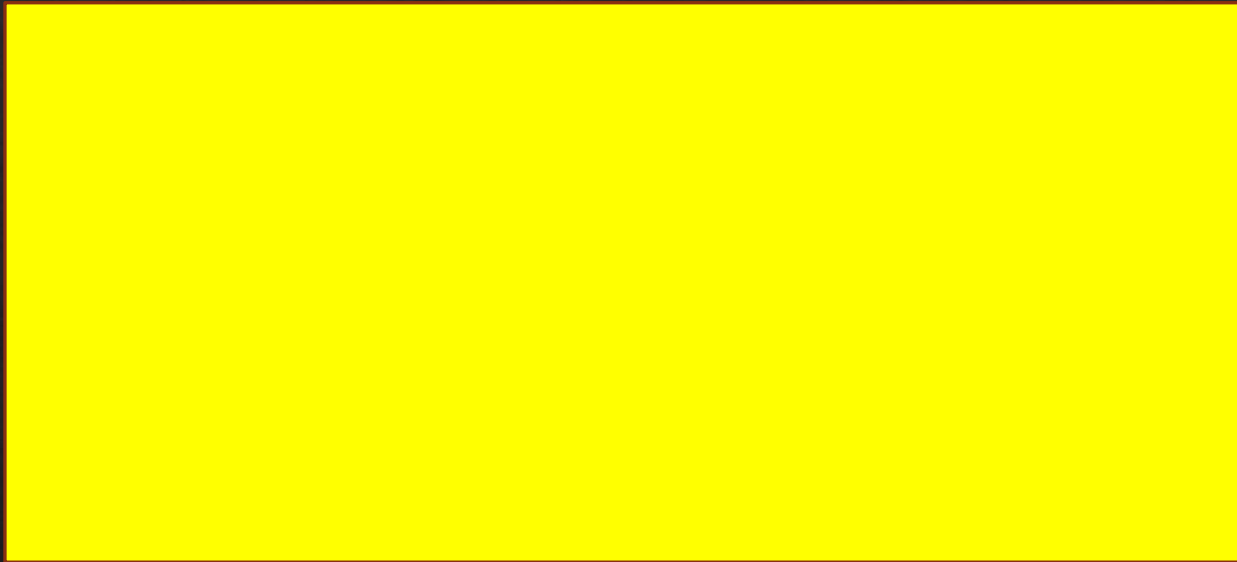
Key Understanding 1

7. Look at the red/blue shape – Do the red and blue parts both show a half? Please explain your answer. Now look at the red/yellow shape – Do the red and yellow parts both show a half? Please explain your answer.



Key Understanding 1

8. Show me a half of this rectangle (20cm X 10cm) in any way you like.



Key Understanding 2

We can partition objects and collections into two or more equal-sized parts, and the partitioning can be done in different ways.

W.A. Curriculum 2026: Key Related Content Descriptors: Year Two
Recognize, describe and create halves, quarters and eighths by repeatedly halving a physical whole or a collection.

- **Describing physical representations of fractions using words and numerical representations, using repeated halving of a range of shapes, objects or collections to make halves, quarters and eighths, and exploring different ways to cut paper squares into halves and quarters**

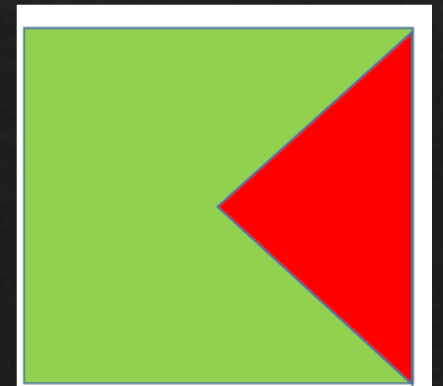
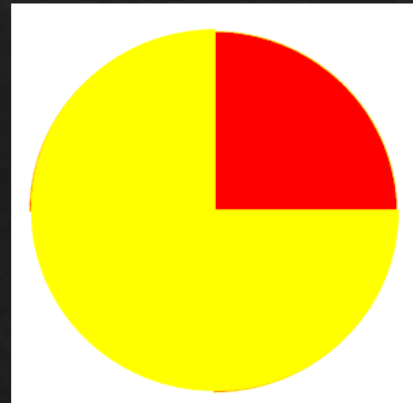
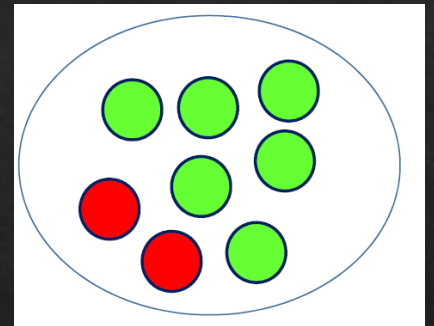
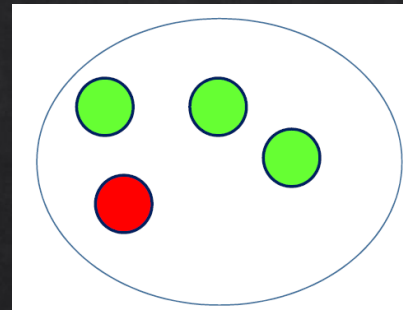
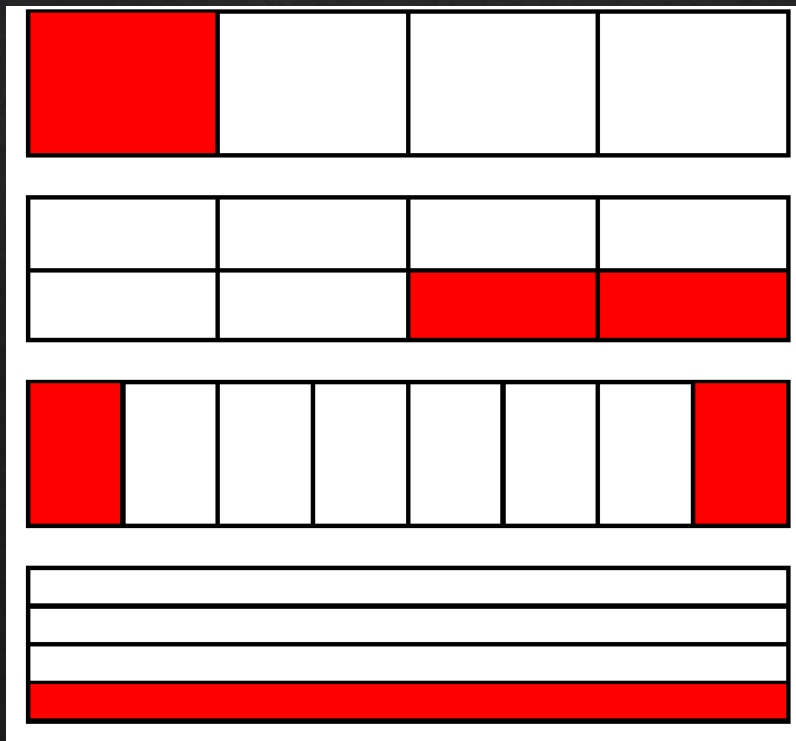
Key Understanding 2

We can partition objects and collections into two or more equal-sized parts, and the partitioning can be done in different ways.

Equal parts need not look alike but they must have the same size or amount of the relevant quantity.

Key Understanding 2

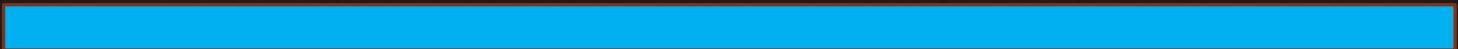
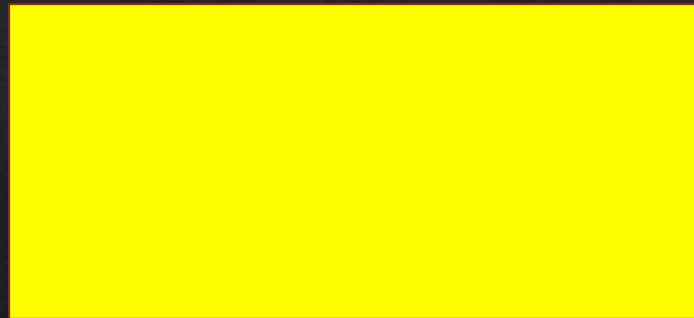
Look at these fraction drawings. What fraction does the red section show? Is it always the same fraction? Please explain your answer.



Key Understanding 2

When splitting a whole into equal parts, the whole should be completely used up.

10. Show me a third of this paper strip (15cm. coloured strip). Show me a quarter of this rectangle (20cm X 10cm coloured rectangle). Explain what you had to be sure of doing when you made each fraction.



Key Understanding 2

Regardless of how we partition, the whole remains the same amount. The more shares something is split into, the smaller each share is.

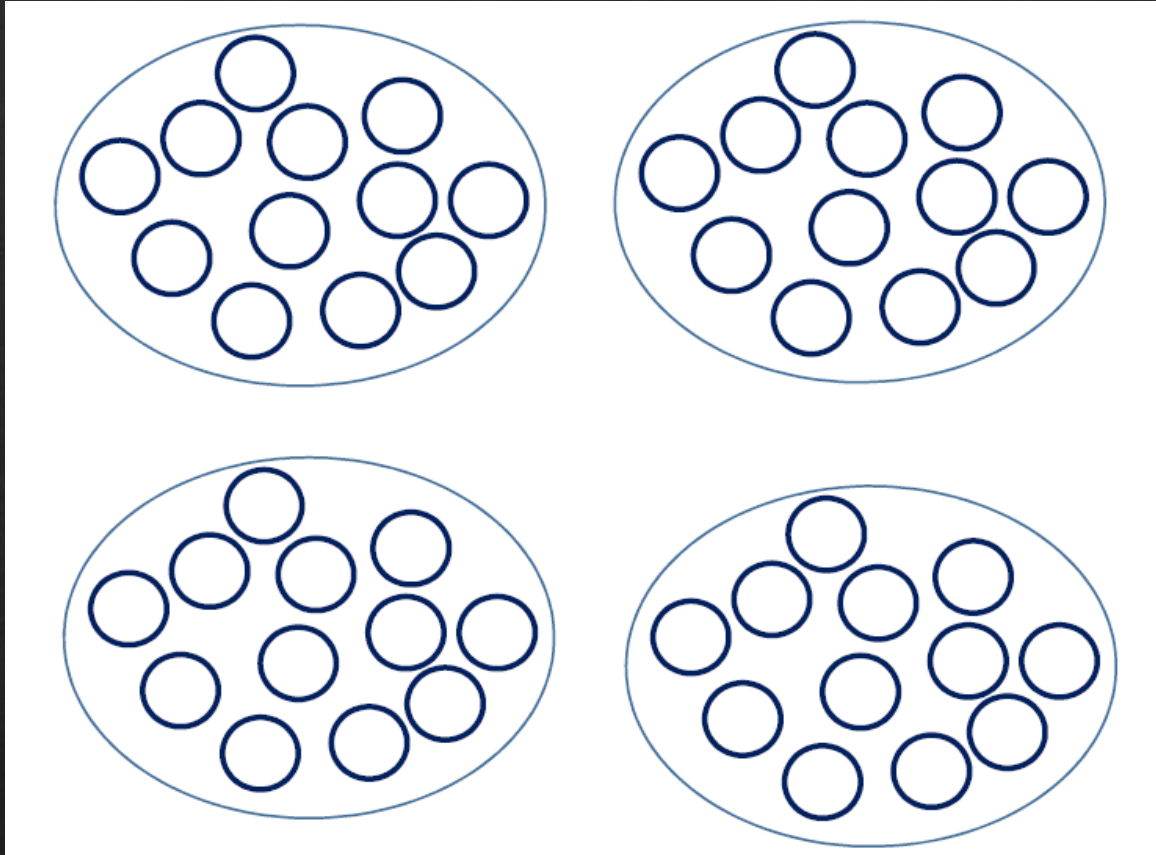
11. Here is a set of counters (twelve).

- Show me a half of the set – how many are there? Shade them on the drawing and write the fraction in numbers.**
- Show me a third of the set – how many are there? Shade them on the drawing and write the fraction in numbers.**
- Show me a quarter of the set – how many are there? Shade them on the drawing and write the fraction in numbers.**

Key Understanding 2

- Show me a sixth of the set – how many are there? Shade them on the drawing and write the fraction in numbers.
- How many are there in the whole set of counters each time?
- What did you notice about the size of the share each time you showed a fraction of the counters?

Key Understanding 2



It is preferable to use real counters but paper sets can be used and shaded.

Key Understanding 2

The size of the share depends on the size of the whole.

12. Take the set of six counters – show me a half. How many are there? Now take the set of twenty counters – show me a half. How many are there? What do you notice about the size of the ‘half’ in each case? Please explain.

13. Take the set of sixteen counters. How many ways can you split the counters so that there are none left over and each share is the same. Record what you do by writing the fraction each time and the number of counters in each share.

Key Understanding 2

We can partition objects and collections into two or more equal-sized parts, and the partitioning can be done in different ways.

Equal parts need not look alike but they must have the same size or amount of the relevant quantity.

Key Understanding 3

We use fraction words and symbols to describe parts of a whole. The whole can be an object, a collection or a quantity.

W.A. Curriculum 2026: Key Related Content Descriptors: Year Three
Recognise, represent and describe unit fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$. Combine unit fractions with the same denominator to create a complete whole.

- Describing fractions using words and numerical representations, exploring fraction walls, representing fractions using shapes, objects, paper folding, fraction strips or number lines, finding the quantity of a whole collection, and sharing collections**

Key Understanding 3

We use fraction words and symbols to describe parts of a whole. The whole can be an object, a collection or a quantity.

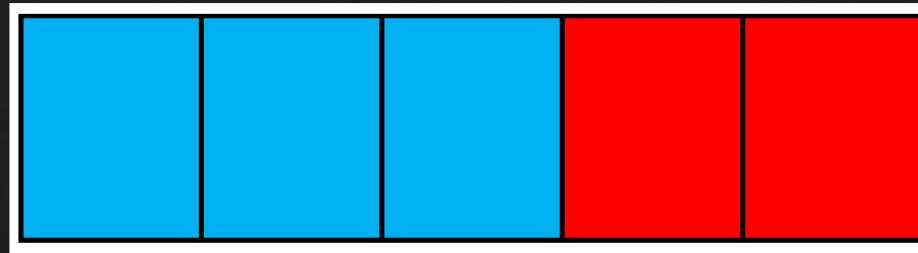
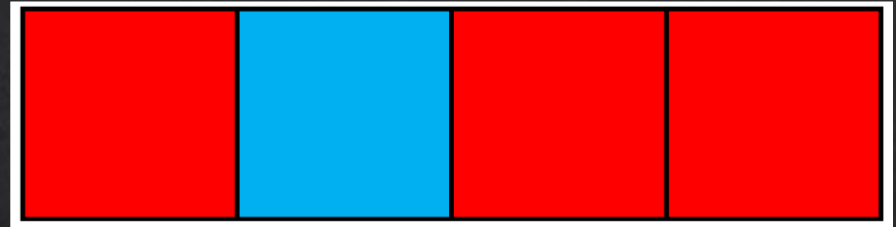
14. Look at each of the red/blue cards.

What fraction is shaded red in each case?

What fraction is shaded blue in each case?

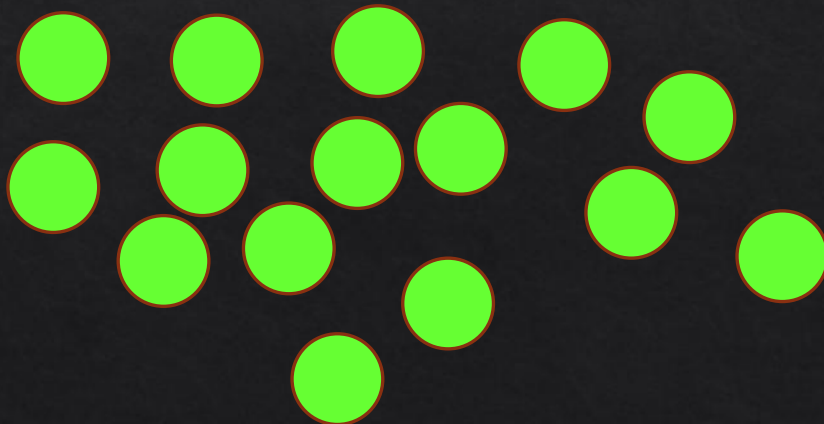
Write each fraction using numbers.

Key Understanding 3



Key Understanding 3

15. Take the set of fifteen counters – split them into five each shares. How many are there in each share? Write and say the fraction name for each share. Write and say the fraction name for two shares, three shares, and four shares and five shares. What did you notice each time?



Workshop Task



Frac Tiles

An important focus here is for students to understand that a half in one situation can look different to a half in another situation. Residual (or gap) thinking can also be developed in this task. That is, if we have one quarter, there are three quarters that we don't have.

Key Understanding 4

The same fractional quantity can be represented with a lot of different fractions. We say fractions are equivalent when they represent the same number or quantity.

**W.A. Curriculum 2026: Key Related Content Descriptors: Year Four
Explore and represent common equivalent fractions and make connections to their decimal representation.**

Representing a line, shape, object or collection using equivalent fractions, demonstrating equivalent fractions, building familiarity with common equivalent fractions, and connecting fractions and decimals by aligning number lines.

Key Understanding 4

The same fractional quantity can be represented with a lot of different fractions. We say fractions are equivalent when they represent the same number or quantity.

Other Related Content Descriptors: Year Five

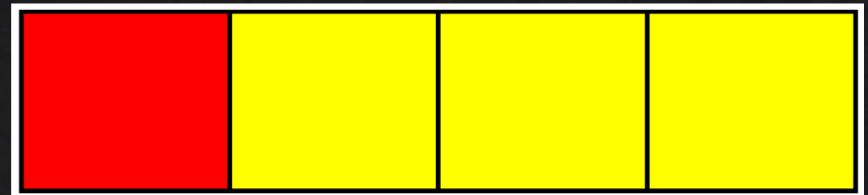
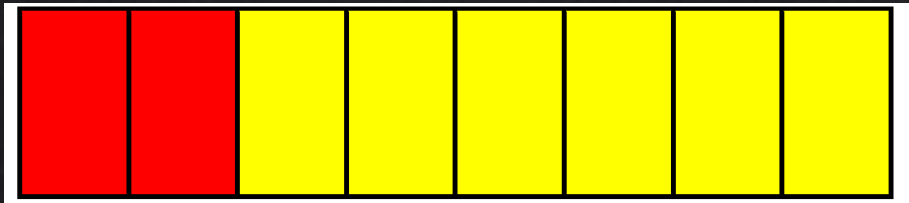
Add and subtract fractions with the same denominator, using flexible and efficient strategies.

Using concrete materials or diagrams, and using diagrams, objects and mental strategies to subtract a unit fraction from any whole number, including one.

Key Understanding 4

The same fractional quantity can be represented with a lot of different fractions. We say fractions are equivalent when they represent the same number or quantity.

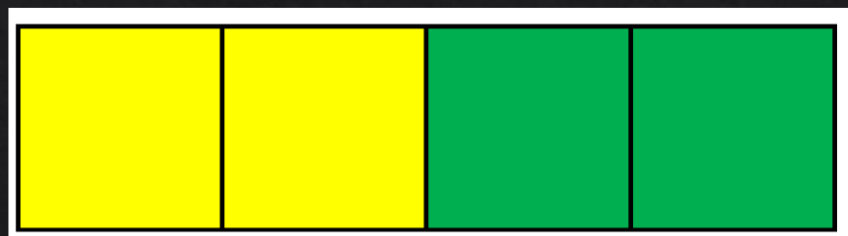
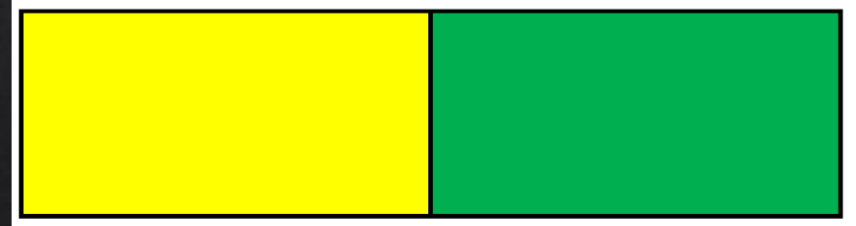
16. Look at the two red/yellow cards. What fraction of each card is shaded red? Write the fraction each time. Does each fraction represent the same amount? Explain your thinking.



Key Understanding 4

The same fractional quantity can be represented with a lot of different fractions. We say fractions are equivalent when they represent the same number or quantity.

17. Look at the three green/yellow cards. What fraction of each card is shaded green? Write the fraction each time. Does each fraction represent the same amount? Explain your thinking.



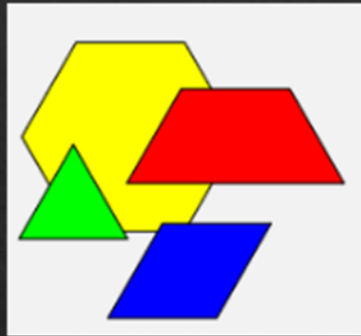
Key Understanding 4

18. Imagine that you have a set of 12 stick lollies (see card). Split them into two equal groups. How many in each group? What fraction of the whole set of lollies does each group contain?

Keep the two groups separate and break them up in other ways so that the number in each group is the same. What fractions of the whole set of lollies does each group now represent. Explain what you were thinking.



Workshop Task



Fraction Blocks

How many ways can you cover a yellow hexagon pattern block with a combination of red trapezoids, blue rhombuses, and green triangles?

Key Understanding 5

We can compare and order fractions and place them on a number line.

**W.A. Curriculum 2026: Key Related Content Descriptors:
Year Five**

Count by unit fractions, locate and represent on number lines and extend to mixed numerals

Cutting objects, such as oranges into sixths and counting by sixths to find the total, counting forwards and backwards by unit fractions, describing and representing quantities that are more than one whole, and moving flexibly between mixed numerals and improper fractions

Key Understanding 5

We can compare and order fractions and place them on a number line.

**W.A. Curriculum 2026: Key Related Content Descriptors:
Year Six**

Order common fractions with the same and related denominators, including mixed numerals, using diagrams and number lines

Using a range of representations, such as number lines, paper strips, shapes and objects to assist in ordering common fractions, such as $\frac{1}{2}$, $\frac{2}{3}$ and $\frac{1}{6}$

Key Understanding 5

We can compare and order fractions and place them on a number line.

Look at the set of fraction cards.

19. Which is the largest fraction? Explain how you know.

20. Which is the smallest fraction? How do you know?

21. Which fraction is closest to a half? How do you know?

22. Place the fraction cards in order on a number line, the smallest at the left end. Explain why you placed them in that order.

23. Which fraction is bigger – two thirds or three quarters? Show/explain how you know.

24. Which fraction is bigger – two thirds or two fifths? Show/explain how you know.

Key Understanding 5

$$\begin{array}{r} \underline{1} \\ 3 \end{array}$$

$$\begin{array}{r} \underline{2} \\ 3 \end{array}$$

$$\begin{array}{r} \underline{1} \\ 4 \end{array}$$

$$\begin{array}{r} \underline{3} \\ 4 \end{array}$$

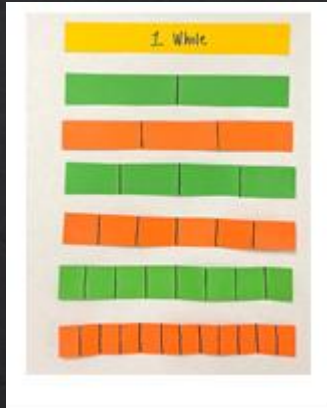
$$\begin{array}{r} \underline{1} \\ 5 \end{array}$$

$$\begin{array}{r} \underline{1} \\ 6 \end{array}$$

$$\begin{array}{r} \underline{1} \\ 10 \end{array}$$

$$\begin{array}{r} \underline{2} \\ 5 \end{array}$$

Workshop Task



Fraction Strips

Task 1

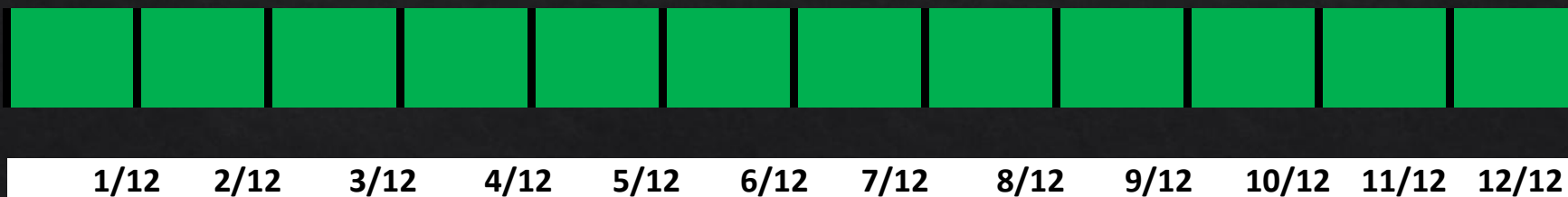
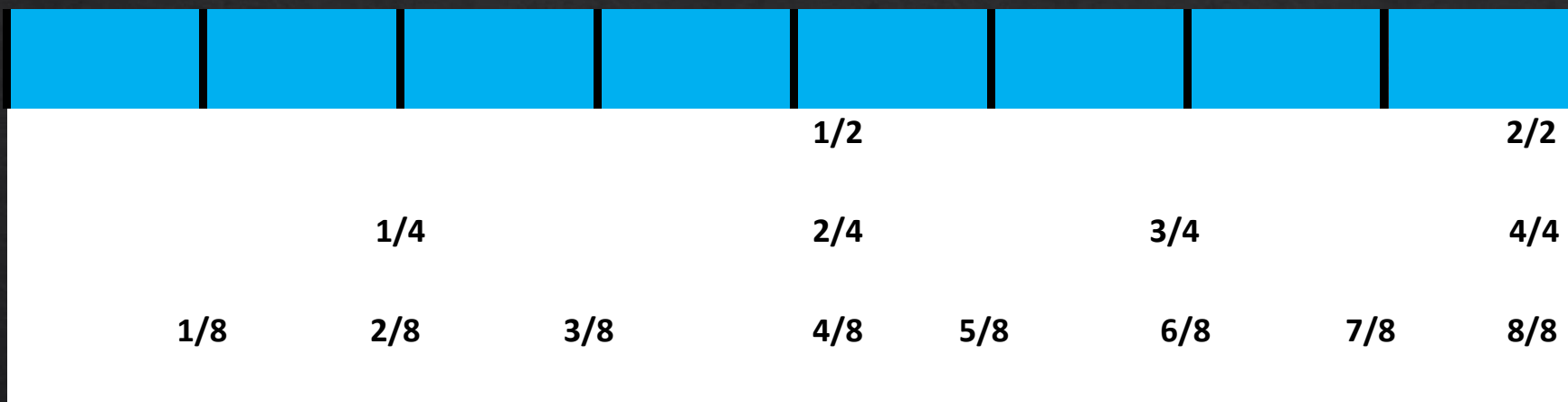
The blue strip represents 1 whole. Fold the blue strip to represent $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$

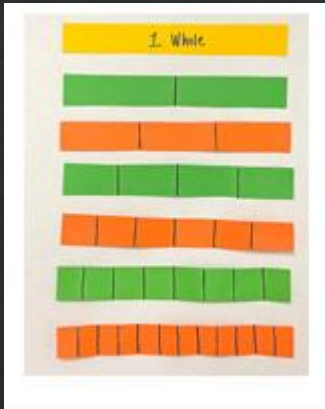
Task 2

The green strip represents 1 whole. Fold the green strip to represent $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, and $\frac{1}{12}$.

Recording Stage.

Using the blank A3 page, students should then align the left end of each strip and paste the strips about 4cm. apart. The folds on the folded strips can then be marked as shown here.





Fraction Strips

The red strip represents two-thirds.

Make a yellow strip that represents three-quarters.

The sting has gone!



Thank you!