Unit Fractions

Adult Guidance with Question Prompts

Children need to know that a unit fraction is one equal part of a whole. They should also be familiar with the terms 'numerator' and 'denominator' and understand the meanings. In this activity, children identify unit fractions of shapes and quantities. They may benefit from having counters or cubes to represent the quantities.

What does the numerator show?

What does the denominator show?

What is a unit fraction?

Why do we call it that?

Where is the unit?

Look at the shapes. How many parts do they have?

Are the parts equal?

Why is that important?

What fraction of the first shape will you shade? Why?

Does it matter which part you shade? Why not?

How can we find a unit fraction of a number of objects?

How many rows/columns are there? Are all the rows/columns equal? How many rows will we circle?

Could you use equipment to help you? How?

Unit Fractions

Shade and label a unit fraction of each shape.

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

Circle the unit fraction of each group.

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

$\frac{1}{3}$

Unit Fractions

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Children need to know that a unit fraction is one equal part of a whole. They should also be familiar with the terms numerator and denominator and understand the meanings. Children write unit fractions that are shaded for them in three equally-sized circles. They make general statements about the fraction of the shape reducing as the denominator increases.

Are these three wholes the same size?

Do all three circles have the same parts?

How many parts does each circle have?

Can you write the fraction that is shaded?

What numerator have you written?

What denominator have you written? Explain why.

What do you notice about the numerator of all the fractions?

Which circle has the largest/smallest shaded part?

Which fraction has the largest/smallest denominator?

As the denominator gets larger, what happens to the shaded part?

Explain why that happens.

Do you agree with James?

Prove it.

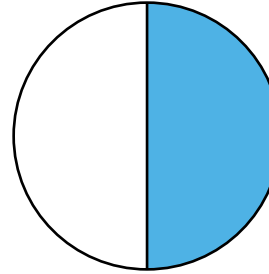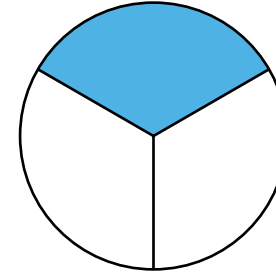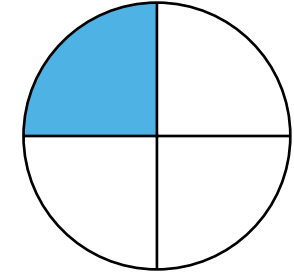**Does this work with fractions of quantities?**

Explore this idea using equipment.

What fraction of each shape is shaded?

James is looking at these unit fractions of shapes.

> When the denominator gets larger, the fraction gets smaller.

Do you agree?

Explain why, using the shapes.

Unit Fractions

Adult Guidance with Question Prompts

Children need to know that a unit fraction is one equal part of a whole. They should also be familiar with the terms numerator and denominator and understand the meanings. They may find counters useful in this activity or they could draw bar models to support their thinking. Look out for children who try to find one third or one quarter of 12. They first must find out Rida's total before working out the other unit fractions.

Do we know how many counters Rida has in total?

Does she have 12 in total? Why not?

How can we use the information she has given us to find out her total?

Can you show me with equipment/a drawing?

Now that we know the total, how can we find one third of her counters?

What method will you choose?

Why have you done it that way?

Can you explain your method to a friend?

How can we find one quarter of her counters?

Can you try a different method this time?

Unit Fractions

Rida has hidden some counters in a bag.

$\frac{1}{2}$ of the number of counters is 12.

What is $\frac{1}{3}$ of the number of counters in Rida's bag?

What is $\frac{1}{4}$ of the number of counters in Rida's bag?