

Decorate the cake

Activity 1

Focus of activity: Finding $\frac{1}{2}$ and $\frac{1}{4}$ of amounts (whole number answers).

Working together: conceptual understanding

- Fold a paper circle into two unequal parts. *Have I folded this circle in half?* Draw out that the two parts aren't equal. Give each child a paper circle and ask them to fold it in half. They check with a partner that their two halves are equal.
- Ask children to pretend that their circle is a cake. They choose four 'Smarties®' (counters) to put on it. But they must put the same number in each half. *Half of 4 is?* Record $\frac{1}{2}$ of 4 is 2 on the flipchart.
- Repeat with 10 'Smarties®'. Record $\frac{1}{2}$ of 10 is 5.
- Ask children to fold their paper circles in half again. *How many parts now?* Remind children that we call each equal part a quarter.
- Children choose 8 'Smarties®' to put on their 'cake'. *Each quarter must have the same number so that we decorate our cake evenly. If someone had a quarter of the cake and didn't get as many Smarties® as someone else's quarter, they might not be very happy! One quarter of 8 is?* Record $\frac{1}{4}$ of 8 is 2 on the flipchart.
- Repeat with 20 Smarties®. Record $\frac{1}{4}$ of 20 is 5.

Up for a challenge?

Ask children to draw 3 Smarties® in each quarter of their cake. *How many Smarties® altogether?* They then fold the cake in half to find half of 12. Next, they fold it in half again to find a quarter of 12. Point out that to find a quarter of a number, we can halve and then halve again.

Now it's the children's turn:

- Children work in pairs to choose a number (from 4, 6, 8, 10, 12 and 14). They split this number of counters between two halves of a cake outline. They draw the results on a blank cake. Repeat twice more. They then choose a number (from 4, 8, 12, 16 and 20) to split between four quarters of a cake. They draw the results on a blank cake. Repeat twice more.
- Go round the group and mark their decorated cakes, making sure that they understand that the same number must be in each half or quarter.

S-t-r-e-t-c-h:

If children cope well, ask them to fill in:

$\frac{1}{2}$ of 8 is ☐

$\frac{1}{4}$ of 8 is ☐

$\frac{1}{2}$ of 16 is ☐

$\frac{1}{4}$ of 16 is ☐

Things to remember

Remember that fractions need to be fair. Split 12 counters between the quarters of a cake in different ways. Children say 'fair' or 'not fair' as you do so.

You may want to add something that has emerged from the activity. This may refer to misconceptions or mistakes made.

Resources • Paper circles • Coloured counters • Large cake outlines divided into halves and quarters (see child instructions) • Sheet of cakes divided into halves and quarters (see child instructions)	Outcomes 1. Children understand that halves and quarters are equal parts of a whole. 2. Children can find $\frac{1}{2}$ and $\frac{1}{4}$ of a small number of objects (whole number answers). 3. Children begin to understand that they can halve twice to find one quarter.
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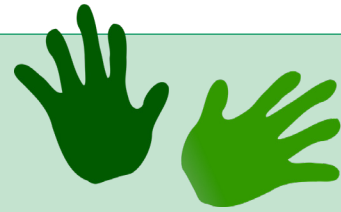
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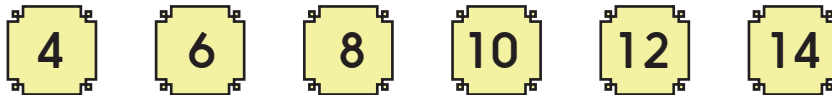
Work in pairs

Things you will need:

- Cake outlines
- Counters
- Recording sheet
- Coloured pencils



What to do:



- Choose a number.
- Split this number of Smarties® (counters) between two $\frac{1}{2}$ s of the big cake divided in $\frac{1}{2}$.
- Draw the Smarties® on a blank cake divided in $\frac{1}{2}$ on the recording sheet.
- Repeat twice more.



- Choose a number.
- Split this number of Smarties® (counters) between the four $\frac{1}{4}$ s of the big cake divided into $\frac{1}{4}$ s.
- Draw the Smarties® on a blank cake divided into $\frac{1}{4}$ s on the recording sheet.
- Repeat twice more.

S-t-r-e-t-c-h:

$\frac{1}{2}$ of 8 is

$\frac{1}{4}$ of 8 is

$\frac{1}{2}$ of 16 is

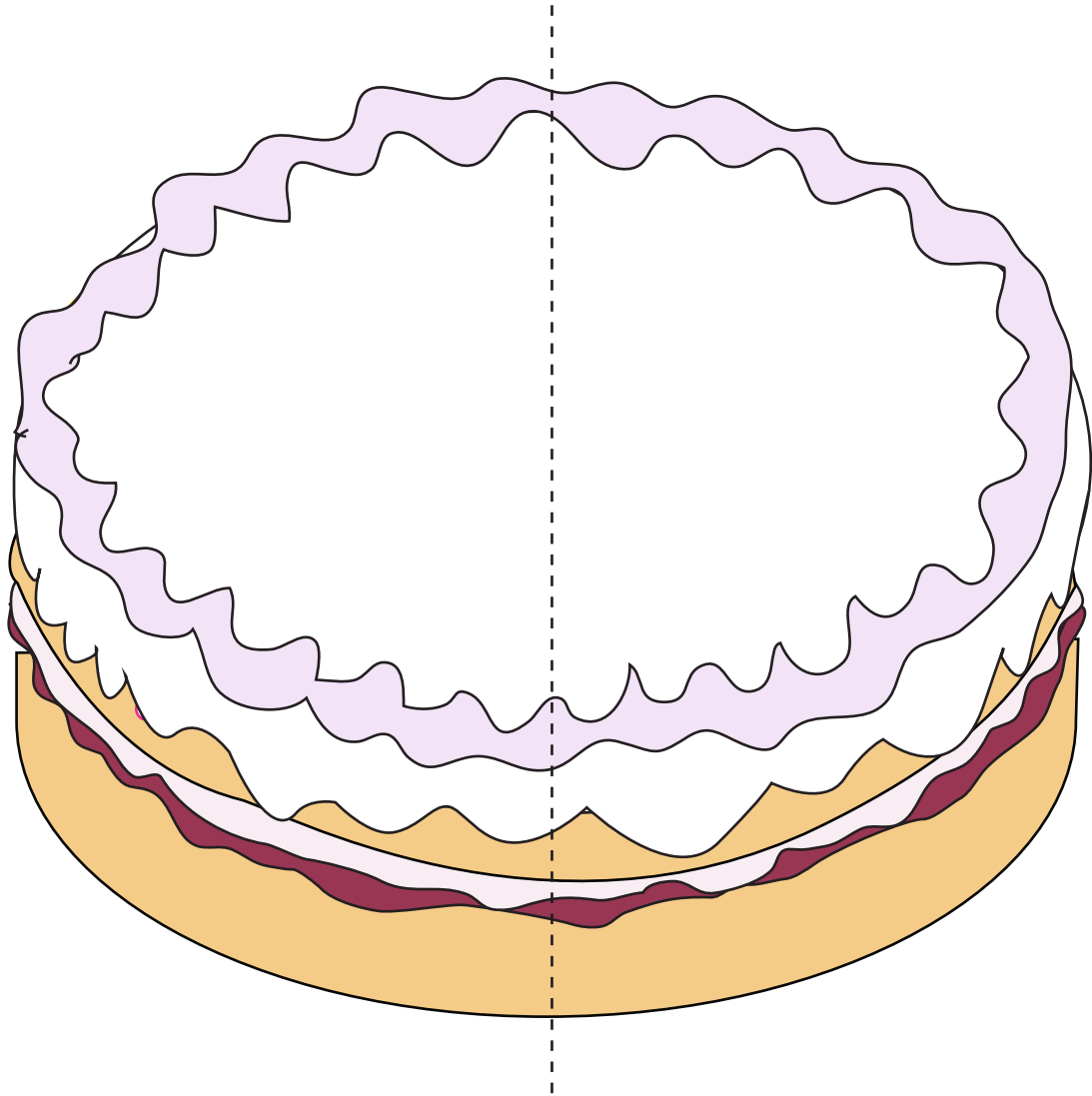
$\frac{1}{4}$ of 16 is

Learning outcomes:

- I understand that halves and quarters are equal parts of a whole.
- I can find $\frac{1}{2}$ and $\frac{1}{4}$ of numbers (whole number answers).
- I am beginning to understand that I can halve twice to find $\frac{1}{4}$.

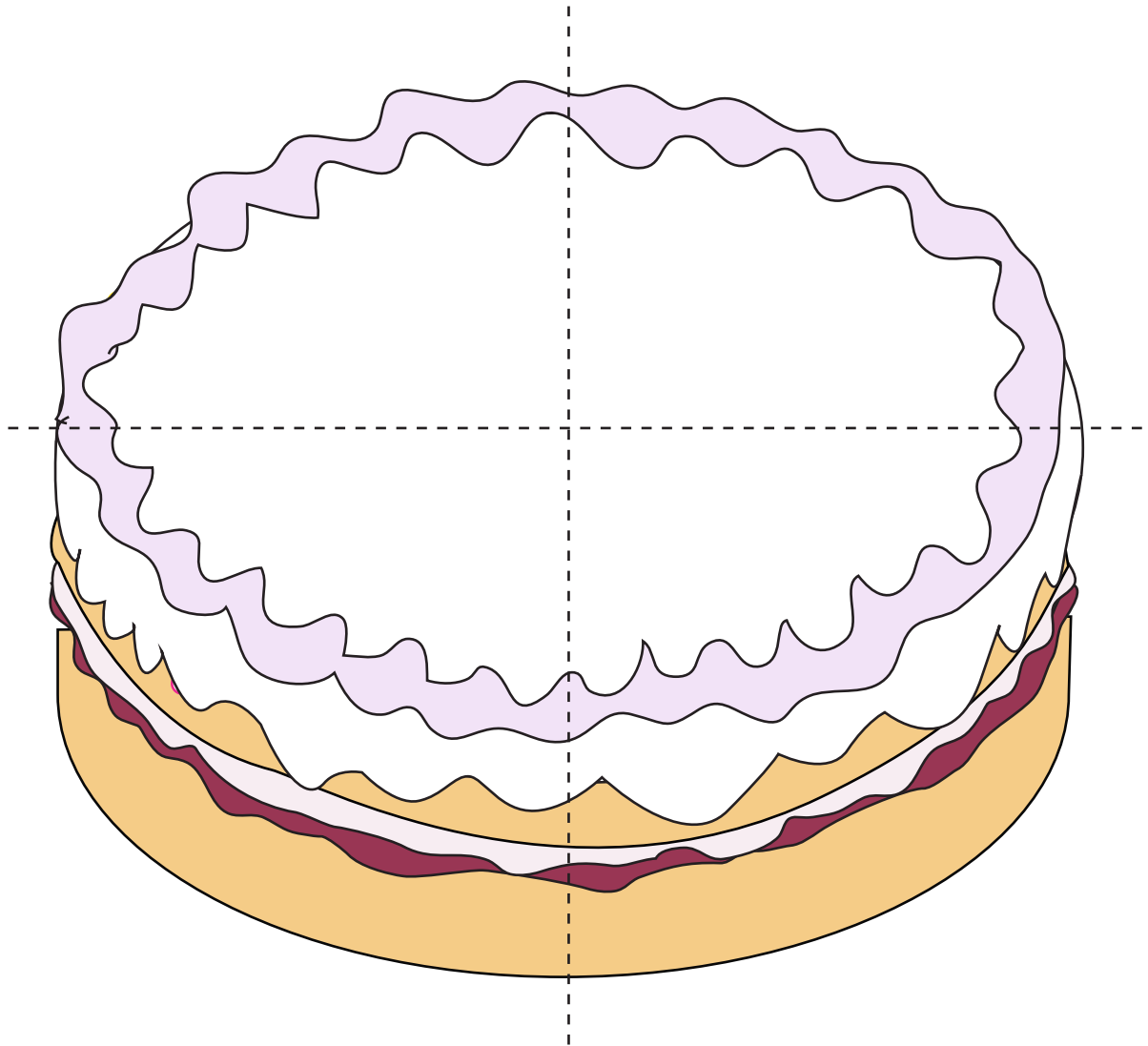
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