

## HALVES AND QUARTERS

- To explore halves and quarters in different contexts
- To explore the relationship between halves and quarters
- To look at quarters of shapes, measures and numbers

### Introducing the topic

- Ask some children to make a very tall tower of Multilink beforehand
- Where do you think halfway up the tower is? Where do you think halfway down the tower is? How can we check without counting? Put the tower back together if necessary
- Where do you think quarter of the way up is? What about quarter of the way down? How can we check without counting? etc

### Questions during activities

- What would two quarters look like?
- What have you found out?
- How many ways have you found so far?
- How many more ways do you think there are?
- Is it always possible to find halves and quarters of anything?
- Does it go on for ever or not?

### Things to think about

- What does a quarter ( $\frac{1}{4}$ ) look like on a calculator?
- How many eggs would a quarter of a dozen be?
- How many sheets of paper would you need to make a book of 12 pages (24 sides) if each sheet was folded in half twice before being stapled together?
- What is a quarter of 100? What would a quarter of 1000 be?
- How many times would you need to halve something to end up with a quarter of a quarter?

- What is quarter of 3?

## Experiences to build on

- Halving
- Sharing between 2
- Symmetry
- Pairing

## Organizational Points

- The activities are suited to pairs. It is important to allow time for questioning and discussion.

## Assessment Observations

- Can children talk about how halves and quarters relate?
- Can they explain what is the same about 2 quarters and a half, in real contexts?
- Can they work out quarters of shapes, measures and numbers?

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**Mathematics**

## HALVES AND QUARTERS cont/...

### Before showing children the video clip

- Try to work out how many children make up a quarter of the class without counting.

### What you may need

- Squared paper, multilink, Battenburg cake, plasticine, calculator, timers, drawing equipment, tube of Colored candy, string

## Things to do

- Use a calculator to find a quarter of each number in a long list of random numbers you have written yourself.
- Make some plasticine swiss rolls. How many different ways can this shape be cut into quarters? Try to predict the shape of the cut face each time. Display your quarters on a tray. Try it for different shaped cakes – try it with a real Battenberg cake if possible!
- Make a simple multilink shape. It is a quarter of a whole shape. Find as many whole shapes as possible.

## More activities

- Cut out some large rectangles into quarters in as many ways as you can. Try it for large triangles too.
- Find halfway along a piece of rope or string. What is halfway of halfway?
- Design a route around the classroom or school grounds with numbers of paces and use quarter, half and three quarter turns to change direction when necessary (Specify turns as always clockwise). Ask someone to follow it. Do they end up where you expected?
- Design a printing pattern based on halves and quarters.
- Try sharing a tube of Colored candy (or pot of counters) as equally as possible between 4 of you.

## Ideas for the whole class

- **Estimating the Time**<

Cover the class clocks and temporarily collect people's watches. Tell the children when it is something o'clock and ask them to estimate when they think it will be quarter past the hour. They can carry on with their work in the meantime!

- **Counting in Quarters**<

Try counting in quarters up to 10. You will have to decide whether to say 2 quarters or a half throughout, or try both.)

- **Half of a Story**<

Read half a story one day. Read half of what is left the next day. Read half of what is left the next day. Will it ever finish? Continue until there is only one word left on the last day! Can we say half the

word?!

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