Power Maths — Strengthen Activities

MISCONCEPTION

When finding halves and quarters of shapes, children do not realise that each half or quarter needs to be the same size.

STRENGTHENING UNDERSTANDING

1. Provide a range of paper shapes. Discuss with children what the terms 'half' and 'quarter' mean, identifying that the shape is split into '2 equal-sized pieces' or '4 equal-sized pieces'. Ask them to fold two shapes into halves or quarters (depending which fraction the misconception arises with).
2. Ask children to cut their shapes along the lines they have folded. Ask them to lay their piece on top of each other. Ask: *Is each half/quarter the same size?* Repeat with another shape.
3. Give children a paper square. Can they draw on lines to split it into halves/quarters? Ask them to fold and cut the shape to check. Give them another square, and ask if they can split it into halves/quarters in any other way.

ASSESSMENT CHECKPOINT

Revisit Q1 and Q3 from the End of Unit Check on Textbook p80.

RESOURCES

Paper shapes, scissors

MISCONCEPTION

When finding halves and quarters of a number of objects children do not realise that each half or quarter must have the same number of objects in it in it, and therefore make halves or quarters that are not equal sizes.

STRENGTHENING UNDERSTANDING

1. Explain you are going to share 12 grapes between 2 or 4 people (depending which fraction needs focus). Share the grapes unequally. Ask: *Have I shared the grapes fairly?* Discuss why it is 'not fair'.
2. Give each child a paper square. Ask them to fold it into quarters. Give each child eight counters to share between each section of their square. Begin to link this to the fraction vocabulary 'a quarter of 8 counters is 2'. Repeat with 16 and 20 counters, each time verbalising the fraction statement.
3. Remove the folded shape. Can children independently find $\frac{1}{2}$ or $\frac{1}{4}$ of 16 counters?

ASSESSMENT CHECKPOINT

Revisit Q2 from the End of Unit Check on Textbook p80.

RESOURCES

Grapes, paper squares, counters, Textbook p80

MISCONCEPTION

Children may be able to find halves and quarters of shapes or physical objects, but not be able to find halves or quarters of 'abstract' numbers.

STRENGTHENING UNDERSTANDING

1. Show a variety of counting objects and observe how children use them to find $\frac{1}{2}$ or $\frac{1}{4}$ of 8. Model counting out 8 objects and sharing into equal groups. Ask: *How do we find $\frac{1}{2}$ or $\frac{1}{4}$ of 8?* Identify that we look at the number of counters in each group. Model the language '$\frac{1}{4}$ of 8 is 2 and $\frac{1}{2}$ of 8 is 4'.
2. Draw 8 dots on a whiteboard. Ask: *How could we work out $\frac{1}{2}$ or $\frac{1}{4}$ of 8 using the dots? How is this the same as/different to the counters?*
3. Ask children to find $\frac{1}{2}$ and $\frac{1}{4}$ of different numbers, encouraging them to use dots to help them.

ASSESSMENT CHECKPOINT

Can children independently find $\frac{1}{2}$ or $\frac{1}{4}$ of 16?

RESOURCES

Counting objects