



Strengthen Activities

MISCONCEPTION

Children may find the protractor difficult to use if the angle is not presented with a horizontal 'base'. They may struggle to see which scale to use when measuring a given angle.

STRENGTHENING UNDERSTANDING

1. Ask children to draw around a protractor on tracing paper. Choosing only one set of scales, children create their own protractors on the tracing paper, marking the intervals at every 5° . Discuss the features of the protractor, and explain the point of both the inner and outer scale, the origin and the baseline to help children understand the structure of a protractor in more detail.
2. Using Lesson 3, Q3 on Practice Book p61, ask children to estimate the size of the angles (measuring to the nearest 5° using their own protractors), ensuring that the baseline and origin are correctly lined up. Encourage children to move their protractor so that the scale part lies over the whole angle before adjusting to line up the origin and baseline. Help children to identify that if their scale cannot be used to measure from one line of the angle, then to try measuring from the other line. Ensure children can see that the page and the protractor can be turned so that the angle can be measured.
3. Ask children to measure the angles more accurately with a plastic protractor, comparing their estimates to their answers.

ASSESSMENT CHECKPOINT

Can children draw their own angles, with non-horizontal lines and measure angles using protractors?

RESOURCES

Tracing paper, protractors, rulers, pencils, Practice Book

MISCONCEPTION

Children may find the complementary angles to 200° rather than 180° when calculating angles on a straight line.

STRENGTHENING UNDERSTANDING

1. Say: *A straight line is 180° . Ask: Is this always, sometimes or never true?* Ask children to draw some straight lines (of different orientations) and use a protractor to measure the degree of turn at any point on the line to prove that straight lines are always 180° .
2. Now draw some additional lines from the centre of the existing straight lines, to create pairs of angles. Measure and label one of the angles and then use knowledge of the angle of straight lines to calculate the missing angles.
3. Children can then check their answers by measuring with a protractor.

ASSESSMENT CHECKPOINT

Can children work out the angles before measuring to check in q1 on Textbook p90? Can they use knowledge of straight lines to find the missing angles in q4 on Textbook p101?

RESOURCES

Protractors, rulers, pencils, Textbook

MISCONCEPTION

Children may try to spot lengths or angles that look the same rather than using reasoning based on properties.

STRENGTHENING UNDERSTANDING

1. Using Textbook p98, Q2, work through the question together. Encourage children to use known facts about the properties of the shapes.
2. Ask questions like: *What kinds of shapes do you see? What are the properties of a regular hexagon? What is the height of the hexagon and how does this relate to the height of the rectangle? Which other measurements are related?*
3. Highlight the importance of using known properties and facts, rather than 'guessing'.

ASSESSMENT CHECKPOINT

Can children reason the missing lengths based on the properties of the shapes in Q2 on Practice Book p73?

RESOURCES

Textbook, Practice Book, pencils, paper