Strengthen Activities

MISCONCEPTION

When using a protractor, children may incorrectly line it up or look at the wrong scale.

STRENGTHENING UNDERSTANDING

1. Ask children to create their own protractors on tracing paper to help them identify the features of the origin, baseline and the two different scales. Ensure children understand how to use these features when measuring and drawing angles.
2. Give children a variety of angles (acute and obtuse) to measure by reading from the correct scale. First ask them to identify angles as 'acute' or 'obtuse' before measuring and checking to see if their answers are reasonable compared to what they had already identified.
3. Encourage children to come up with their own 'rule' as to which scale to use. They should be able to tell you that if you follow the baseline along the arm of the angle, where the scale is 0, then that is the scale to be used.

ASSESSMENT CHECKPOINT

Can children accurately measure all the internal angles in Q3a on Practice Book p7?

RESOURCES

Protractors, tracing paper, pencils, rulers, scissors, acute and obtuse angles to measure, Practice Book

MISCONCEPTION

Children may try to use a protractor to measure all the angles, rather than calculating using known angle rules.

STRENGTHENING UNDERSTANDING

1. Revise properties of different known angles (right, straight and full turn) and the sum of internal angles of shapes including triangles and quadrilaterals. Children can check and prove any that they are unsure of by using protractors or by tearing and matching the angles in a shape (see Textbook, p19).
2. Draw some angles and shapes (not to scale) on the whiteboard with known angle facts, for example a triangle with two angles given, angles on a straight line with one unknown. Ask children how they could work out the missing angle. Encourage children to see that the angles drawn are not in fact accurate, and so using a protractor to measure the missing angle(s) will not give an accurate answer. Instead, ensure children understand that they can use known angle and shape facts to find the missing angle(s) by using subtraction. Allow children to find the missing angles, justifying how they solved each one.
3. Ask children to make up some of their own missing angle questions for a partner to solve.

ASSESSMENT CHECKPOINT

Can children identify the known facts needed and accurately complete Q5 on Practice Book p17?

RESOURCES

Pencil, ruler, whiteboards, pens, Textbook, Practice Book

MISCONCEPTION

Children may draw the correct number of faces for the net of a cube, but may have faces that overlap or edges that do not meet when the net is folded.

STRENGTHENING UNDERSTANDING

1. Allow children to explore a cube, noticing the number of faces, before asking them to design two nets, one that will fold to make a cube and one that will not. Provide flat square shapes for children to draw around to make it easier to create their nets.
2. Encourage visualisation of folding the nets into cubes, paying particular attention to whether any of the faces might overlap or not meet. Use the 3D shapes tool to help children visualise the nets folding and unfolding.
3. Ask children to cut out their nets accurately and share them with the rest of the group. Ask children to visualise if each net makes a cube, justifying their answers. They fold the nets to see if they are correct. If a 'net' does not make a cube, discuss what they could change in order to make it work, and use the 3D shapes tool to model this.

ASSESSMENT CHECKPOINT

Can children accurately distinguish shapes that are nets of cubes and those that are not in Q1 on Practice Book p39?

RESOURCES

Paper, pencil, scissors, cubes, squares, 3D shapes tool, Practice Book