Angles and Triangles

Maths | Year 5 | Lesson 2 of 5

Learning Objective	Resources
To be able to measure and calculate angles on a straight line and around a point.	Slides Worksheet 2A/2B/2C Protractors Clock Angles 2 (FSD? activity only) Blank Clock Faces 2 (FSD? activity only)

Teaching Input

- How many degrees are there in a straight line? Invite children to share their ideas, then show the diagram on the slides which shows two right angles, or quarter turns totalling 180°.
- How many degrees are there in a full turn? Explain that a quarter turn is 90°, half a turn is 180°, three quarters of a turn is 270° and a full turn is 360°.
- What are the missing angles on these straight lines? Show the three missing angle questions (an explanation and answers are given after each).
- What are the missing angles around these points? Show three more missing angle questions.
- Did you know that the angles inside a triangle always add up to 180°? A triangle with one inside angle missing is shown? What is the missing angle?
- How could we work out the two missing angles on the straight line shown? Children to respond. The following slide explains that a protractor can be used.

Main Activity

Lower ability:	Middle ability:	Higher ability:
Worksheet 2A asks children to find missing angles on a straight line, then decide whether angles inside triangles are acute, obtuse or right angles.	Worksheet 2B asks children to calculate missing angles using their knowledge of degrees in a quarter, half, three-quarter and full turn. They can check their calculations with a protractor when they have finished.	Worksheet 2C asks children to draw multiple angles around a point and calculate missing angles using their knowledge of degrees in a quarter, half, three-quarter and full turn. They can check their calculations with a protractor when they have finished.

Fancy something different...?

- All children will need Clock Angles 2, Blank Clock Faces 2 and a protractor. Children are challenged to work out both the smaller and larger of the two angles between the hands on a clock at different times of day. They may draw the times given on the blank clock faces, then measure the angles between them using a protractor.

Plenary	Assessment Questions
Show the Plenary slides. Can you work out the missing angles? How did you do it? Discuss.	• Do children know how many degrees there are in a quarter, half, three-quarter and full turn? • Can children use their knowledge of angles to calculate missing angles on a line or around a point? • Can children use a protractor to measure angles on a line or around a point?