Understanding Angles and How to Measure Them

KS3 Ages 11-14 ⏰ 3 min read

What is an Angle?

An **angle** is the space between two lines that meet at a point called a **vertex**. You can find angles everywhere—in the corners of your bedroom, in the hands of a clock, and even in the positions of your arms and legs. Angles are measured in units called **degrees**, shown with a small circle symbol (°). A full rotation all the way around is **360 degrees**.

Think of it like opening a door—the wider you open it, the bigger the angle between the door and the wall.

The Main Types of Angles

There are four main types of angles you need to know. A **right angle** is exactly **90 degrees**—you see these in the corners of squares and rectangles. An **acute angle** is smaller than 90 degrees, so it's sharp and pointy. An **obtuse angle** is larger than 90 degrees but smaller than 180 degrees, making it wider and more open. Finally, a **straight angle** is exactly **180 degrees**—it's perfectly flat, like a straight line.

Think of it like pizza slices—a right angle is a quarter slice, an acute angle is a thin slice, and an obtuse angle is a thick slice.

How to Measure Angles

To measure an angle accurately, you use a tool called a **protractor**. A protractor is a semi-circular plastic ruler with numbers from 0 to 180 marked around the curved edge. To use one, place the straight edge along one of the angle's lines, line up the centre point with the vertex, and read where the other line crosses the scale. Always double-check you're reading the correct set of numbers—protractors have two scales to make measuring easier.

Think of it like using a ruler to measure length—the protractor does the same job but for angles instead of distance.

Why Angles Matter

Understanding angles is crucial in **geometry**, **architecture**, and engineering. Architects use angles to design buildings, engineers use them to build bridges, and even video game designers use angles to create realistic movement. The more you practise measuring and identifying angles, the better you'll become at solving geometry problems and understanding the shapes around you.