Foxford Learning Plan

YEAR: 10 Foundation Spring 2

Topic: Trigonometry
Area and surface area
Volume of prisms

Key Vocabulary

Volume	In math, volume can be defined as the 3-dimensional space enclosed by a boundary or occupied by an object
Area	The amount of space inside the boundary of a flat (2-dimensional) object such as a triangle or circle, or surface of a solid (3-dimensional) object
Prism	A solid geometric figure whose two ends are similar, equal, and parallel rectilinear figures, and whose sides are parallelograms
Surface Area	The total area the surface of an object occupies
Pythagoras' Theorem	$a^2 + b^2 = c^2$ c is the longest side
Opposite	In a right triangle, the hypotenuse is the longest side, an "opposite" side is the one across from a given angle
Adjacent	The adjacent side is the non-hypotenuse side that is next to a given angle
Hypotenuse	The side of a right-angled triangle that is opposite the right angle
Trigonometry	The branch of mathematics dealing with the relations of the sides and angles of triangles and with the relevant functions of any angles

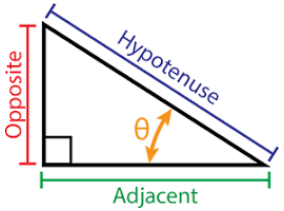
Key Skills

Over the course of the topic, I will be able to: -

Introduction to Trigonometry
Understand what trigonometric ratios are
Use trigonometry to calculate angles from two known sides
Use trigonometry to find an unknown length given one side and an angle

Area and surface area of Compound Shapes and prisms
Calculate the area of compound shapes made from triangles, rectangles, trapezia and parallelograms using a variety of metric measures
Find the perimeter of a rectangle, trapezium and parallelogram using a variety of metric measures
Calculate the perimeter of compound shapes made from triangles and rectangles
Estimate area and perimeter by rounding measurements to 1 significant figure to check reasonableness of answers
Find the surface area of prisms using the formulae for triangles and rectangles, and other (simple) shapes with and without a diagram

Volume of Prisms
Recall and use the formula for the volume of a cuboid
Find the volume of a prism, including a triangular prism, cube and cuboid
Calculate volumes of right prisms and shapes made from cubes and cuboids



I will Understand how to:

1. Use knowledge of alternate and corresponding angles to calculate missing angles in geometrical diagrams
2. Solve problems using Pythagoras' theorem in two dimensional figures
3. Know and use the formulae for: the trigonometric ratios sine, cosine and tan; apply them to find angles and lengths in right-angled triangles and in two dimensional figures