Year 7 : Geometric Multiplication & Division Medium Term Plan

Geometric Multiplication and Division	Area of Rectangles	Understand that area is the amount of square units. Calculate the area of rectangles with and without a grid. Find lengths given the area.	
	Area of Parallelogram	Calculate the area of a parallelogram and understand the link to rectangles and square units. Find lengths given the area.	
	Area of Triangle	Calculate the area of different types of triangle and link to rectangles and square units. Find lengths given the area.	
	Compound Shapes	Calculate the area of compound shapes made from rectangles, triangles and parallelograms. Find lengths given the area.	Real life area linked to decoaratoring. Buying furniture, cost and budgeting.
	Area of Trapezium	Calculate the area of a trapeziums and link to the different ways to link back to a rectangle and square units. Calculate missing lengths given the area.	
	Building a theme park (3-4 lessons)	Number work (add, subtract, multiply, divide). Planning and design skills. Logical thinking. An understanding of revunue, profit and loss.	

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	Upper and Lower Bounds	Calculate the upper and lower bounds in area contexts involving squares, rectangles, triangles, parallelograms and trapeziums.	
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Key Knowledge/Prior Learning KS2/Retrieval and Suggested Starters

- Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes.
- Estimating areas with squares
- Times tables
- Identifying shapes and shape properties

KS3 National Curriculum – what students will be practicing

- Derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms and trapezia
- calculate and solve problems involving areas of composite shapes
- Calculations with upper and lower bounds

Specific Ambitious Knowledge

- Compound shapes – x3 methods known (where appropriate).
- Using algebra to explain area or a pictorial explanation of a trapezium.

Key Vocabulary/Literacy Opportunities

- Area
- Formula
- Length
- Width
- Height
- Base
- Dimensions

Key Formulae/Knowledge

- See below for area formula

Cross Curricular Links

- DT -shapes
- Art – 2d shapes and tesselation

Student' Thinking

Projects/Enrichment/Investigations
• Changing areas, changing perimeters: https://nrich.maths.org/7534/note • Tilted Squares: https://nrich.maths.org/tiltedsquares • Completing Quadrilaterals: https://nrich.maths.org/11234 • Fence it: https://nrich.maths.org/2663/note • Isosceles triangles: https://nrich.maths.org/isosceles/note • Pick's Theorem: https://nrich.maths.org/picks theorem/note • Isometric Areas: https://nrich.maths.org/11853 • Kissing Triangles: https://nrich.maths.org/542 **Projects:** **Core:** Building a theme park **Upper:** Building a theme park **Set 1:** Building a theme park