Geometry Unit Plan 2018-19

Dates	Unit	Topics	Project	Days
9/5 - 9/21	1a. Tools of Geometry	Definitions, measuring segments and angles, addition postulates, compass use	Euclid's 1st Construction	10
9/24 - 10/5	1b. Angle Pairs	Supplementary, complementary, vertical, bisectors, constructions	Further constructions	10
10/9 - 10/26	2. Geometric calculations	Midpoint, distance; Area, perimeter; Proof: Induction, logic	Bisector constructions	9
10/29 - 11/8 Trimester	2b. Transversals	Transversals, parallel, perpendiculars, constructions	Triangle centers, binder	9
11/11 - 11/30	3. Analytic Geometry	Triangle internal, external angles; Line equations, slope, parallel, perpendiculars; translations		11
11/26 - 12/13	4. Congruent Triangles	Congruence theorems, transformations, overlapping triangles, trig	Geometry software	10
12/17 - 12/21	5. Intensives week	Transformation, medians, analytic geometry, volume, angle sums		11
1/2 - 1/18 Regents	6. Similarity	Dilation, triangle similarity theorems, ratios, trigonometry; constructions	Mock Regents	12
1/28 - 2/7	7. Algebra Review	Point-slope, linear equations, radicals, algebra practice	Geogebra transformation, centroid	15
2/8 - 3/1	7. Circles	Circle equations, completing the square, radicals, algebra practice	Geogebra transformation, centroid	15
3/4 - 3/22	8. Transformations	Similarity applications, symmetry, composition, properties	Triangle dilation situations	13
3/25 - 4/18 Mock Apr2	9. Circles	Tangents, chords, inscribed angles, angle measures, lengths; dilation review	Power laws	10
4/29 - 5/10	10. Area and volume	Multi-step situations, unit conversions, polygon formulas, perimeter, arcs, sectors	Capstone: Lamp design	12
5/13 - 5/24	11. Quadrilaterals	Angle sums, parallelograms, properties, proof	Word fluency	9
5/28 - 6/14	13. Review			10

165 instructional days

Student Projects 2018-19

Date	Progression	Unit	Project	Description	Format
9/18	Classical construction	1a. Tools of Geometry	Euclid's 1st Construction	Equilateral triangle, introduction to the use of compass and straightedge	paper and pencil, with heading

Geometry Concepts & Skills Progression

Topic	6	7	8 Common Core	9 Algebra	10 Geometry	11+12 IB Math
Length		Segment addition, perimeter, area, volume			Distance formula	$A_{triangle} = \frac{1}{2}b\sin\theta$, Area as integration
Angles		Vertical, supplementary, complementary		Axes scales		
Graphing		4-quadrant (x, y) plane				
Objects	Triangle, square, rectangle	Triangle internal sum				
Transformations		Ratios, scale factor	Dilation on graph			
Algebraic equations		Find x situations				
Proof						