Queen's Park High School Key Stage 3 Assessment Mathematics – SHAPE & SPACE

Year 9	Working Towards	Evidence	Meeting	Evidence	Exceeding	Evidence
Properties of Shape	Identify and apply circle definitions and properties- centre, radius, chord, diameter, and circumference Interpret plans and elevations of 3-D shapes Derive and use the sum of angles in a triangle, leading sum of angles in polygons Understand and use the alternate and corresponding angles on parallel lines		Identify and apply circle definitions and properties, including tangent, arc, sector and segment Construct perpendicular bisectors and angle bisectors Construct given figures and solve loci problems Construct plans and elevations of 3-D shapes Use basic congruence criteria for triangles (SSS,SAS,ASA,RHS) Apply angle facts, congruence and similarity to solve problems		Apply and prove the standard circle theorems concerning angles, radii, tangents and chords	
Measurement and Calculations	Measure the line segments and angles in geometric figures including the use of maps, scale drawing and bearings Know the circles formula for Area and circumference. Calculate the area of the compound shapes Know and apply the formula for Volume of a prism.		Calculate arc lengths, angles and areas of sectors of circles Calculate the surface area of a prisms Including the cylinder Know and apply Pythagoras' Theorem		Calculate surface area and volume of spheres, pyramids and cones Apply and use similarity with area and volume Use the trigonometric ratios of SOHCAHTOA to find missing angles or sides Know the exact values (eg cos90=0)	
Position and Direction	Identify, describe and construct congruent shapes by enlargement		Identify, describe and construct congruent shapes by enlargement (begin to consider fractional scale factors)		Identify, describe and construct congruent shapes by enlargement (begin to consider fractional or negative scale factors) Describe combined transformations Add, subtract and multiply vectors Produce diagrammatic and column representations of vectors	
Communication	Beginning to use specialise vocabulary to explain their decision making.		Use and apply geometric facts to derive rules and support arguments		Use knowledge the proof theorems Write mathematical arguments concisely using appropriate vocabulary.	
Year 8						
Properties of Shape	Recognise properties of reflection/rotation symmetries Draw diagrams from written descriptions Identify properties of the faces, edges, surfaces and vertices of cubes /prisms /cylinders /pyramids /cones /spheres Derive and use the special properties of Quadrilaterals Apply the properties of angles where they meet at a point, on a straight line, vertically opposite		Identify and apply circle definitions and properties- centre, radius, chord, diameter, and circumference Interpret plans and elevations of 3-D shapes Derive and use the sum of angles in a triangle, leading sum of angles in polygons Understand and use the alternate and corresponding angles on parallel lines		Identify and apply circle definitions and properties, including tangent, arc, sector and segment Construct perpendicular bisectors and angle bisectors Construct given figures and solve loci problems Construct plans and elevations of 3-D shapes Use basic congruence criteria for triangles (SSS,SAS,ASA,RHS) Apply angle facts, congruence and similarity to solve problems	
Measurement and Calculations	Measure the line segments and angles in geometric figures Use standard units of mass, time, length, money: decimals where needed Calculate perimeters of 2-D shapes Know and apply the formulae to calculate the area of		Measure the line segments and angles in geometric figures including the use of maps, scale drawing and bearings Know the circles formula for Area and circumference. Calculate the area of the compound shapes Know and apply the formula for Volume of a prism.		Calculate arc lengths, angles and areas of sectors of circles Calculate the surface area of a prisms Including the cylinder	

	triangles/parallelograms/trapezia Calculate surface area Know and apply formulae for the Volume of a cuboid					
Position and Direction	Solve geometrical problems on coordinate axes Identify, describe and construct congruent shapes by rotation, reflection and translation Describe translations as 2-D vectors		Identify, describe and construct congruent shapes by enlargement		Identify, describe and construct congruent shapes by enlargement (begin to consider fractional scale factors)	
Communication	Use conventional vocabulary – point, line, vertices, edges, planes, parallel lines, perpendicular lines, right angles, regular, polygon Use standard notation when labelling and referring to parts of a triangle		Beginning to use specialise vocabulary to explain their decision making.		Use and apply geometric facts to derive rules and support arguments	
Year 7						
Properties of Shape	Illustrate and name parts of the circle (inc D =2r) Draw 2-D shapes using given dimensions and angles Recognise, describe and build simple 3-D shapes and nets Compare and classify geometric shapes based on properties and size Recognise angles where they meet at a point, on a straight line, vertically opposite		Recognise properties of reflection/rotation symmetries Draw diagrams from written descriptions Identify properties of the faces, edges, surfaces and vertices of cubes /prisms /cylinders /pyramids /cones /spheres Derive and use the special properties of Quadrilaterals Apply the properties of angles where they meet at a point, on a straight line, vertically opposite		Identify and apply circle definitions and properties- centre, radius, chord, diameter, and circumference Interpret plans and elevations of 3-D shapes Derive and use the sum of angles in a triangle, leading to sum of angles in polygons Understand and use the alternate and corresponding angles on parallel lines	
Measurement and Calculations	Use, read, write and convert between standard units (mass length volume) Convert between miles and km Recognise that shapes with same area can have different perimeters and vice versa Find the area of parallelograms and triangles Recognise when it is possible to use formulae for area or volume Calculate, estimate and compare volume of cubes and cuboids using standard units		Measure the line segments and angles in geometric figures Use standard units of mass, time, length, money: decimals where needed Calculate perimeters of 2-D shapes Know and apply the formulae to calculate the area of triangles/parallelograms/trapezia Calculate surface area Know and apply formulae for the Volume of a cuboid		Measure the line segments and angles in geometric figures including the use of maps, scale drawing and bearings Know the circles formula for Area and circumference. Calculate the area of the compound shapes Know and apply the formula for Volume of a prism.	
Position and Direction	Describe positions on the full coordinate grid Draw and translate simple shapes on the coordinate plane Reflect shapes in axes		Solve geometrical problems on coordinate axes Identify, describe and construct congruent shapes by rotation, reflection and translation Describe translations as 2-D vectors		Identify, describe and construct congruent shapes by enlargement	
Communication	Solve problems involving changing units		Use conventional vocabulary – point, line, vertices, edges, planes, parallel lines, perpendicular lines, right angles, regular, polygon Use standard notation when labelling and referring to parts of a triangle		Beginning to use specialise vocabulary to explain their decision making.	