ACP Learning Outline - Mathematics

Unit 7 – Geometry and Shape

Learning Aim (WALT)	Activities	Learning Outcome (WILF)
Identify 2D Shapes and their Properties	- 10Ticks L3-6 p26-29 - 10ticks L4-8 p3-5 - 10Ticks L6-5 p27-38, 39-42 - Home Learning Y2 Shapes Booklet p2-4 - Home Learning Yr 3 shape (parallel and perpendicular) (2d shape draw) - MyMaths (shape) – 2D & 3D shapes (describing corners, triangles, 2D shapes, lines & quadrilaterals)	• Recognise and name - squares, rectangles, triangles, circles (E1) • Recognise and name – pentagon, hexagon, octagon, triangle, right angled triangle (E2) • Describe properties using *edges, vertices, straight, curved* (E2) • Identify polygons to 10 sides (E3) • Identify different types of triangles and quadrilaterals (E3) • Compare polygons by their properties (L1)
Identify 3D Shapes and their Properties	- 10Ticks L3-6 p31,32 - 10Ticks L4-8 p21-25 - 10Tikcs L5-6 p31-34 -10Ticks L6-2 p37-42 - Home Learning Y2 Shapes Booklet p5-6 -Home Learning Yr 3 shape (3D shape activity) -MyMaths (shape) – 2D & 3D shapes (3D shapes, Nets, plans & elevations)	• Recognise and name – cubes (E1) • Recognise and name – cuboids, pyramids, spheres (E2) • Describe the properties of solids using edges, vertices and faces (E2) • Recognise and name prisms, cylinders, cones (E3) • Recognise and draw nets of cubes and cuboids (E3) • Construct and read plans/elevations for 3D shapes (L1)
Compare shapes and sort according to features	- 10Ticks L3-6 p46 - 10Ticks L4-8 p21-25 -10Ticks L7-5 p11-14, 23-28 -Home Learning Y2 Shapes Booklet p7-9 -MyMaths (shape) – 2D & 3D shapes (congruent triangles, 2D what am I?, 3D what am I?)	• Compare and order a group of objects or pictures of similar and congruent shapes (E1) • Use *big, large, thin, narrow, wide, long, short* to describe and compare shapes (E1) • Compare properties of shapes (E2) • Compare lines and shapes using *horizontal, vertical, parallel* (E3) • Analyse congruent and similar shapes (L1)

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Use and understand positional vocabulary	- 10Ticks L3-6 p37-39, 47, 48 - 10Ticks L4-7 p 3-10, 15-19 - Home Learning Yr 3 shape (right angles) (angle less than more than activity) - MyMaths (shape) – Angles (position & turning, angles 2, angles 3, measuring angles)	• Use *left, right, between, inside, outside, middle, below, under, above, on top* to describe position (E1) • Understand angle as a measure of turn – *quarter, half, three quarter, whole, clockwise, anti-clockwise* (E2) • Use N S E W to give directions or position on a map (E3) • Identify angles smaller than and larger than a right angle (E3) • Identify angles using degrees (L1)
Angle Rules	- MyMaths (Shape) – Angles (angle sums, angle reasoning, angles in parallel lines, interior exterior angles, sum of angle in polygon, bearings) - MyMaths (Shape) – circle theorems (circle theorems) - 10Ticks L4-7 p17-18 - 10Ticks L5-3 p3-6, 12,16, 17-22, 27 - 10Ticks L6-2 p23-26, 27-36 - 10Ticks L6-5 p27-30	• Classify angles by type (E3) • Identify angles using rules for shapes and parallel lines (L1) • Solve problems involving angles (L1) • Apply angle facts to bearings (L1) • Identify and use circle theorems (L2)
Using Coordinates	- 10Ticks L3-6 p47 - 10Ticks L4-7 pages 11-14, 19-24, 27,28 - MyMaths (algebra) – Coordinates (Coordinates 1, 2, midpoint 1,2)	• Denote the position of a point on a grid by its coordinates (E3) • Identify a point or item by its coordinates (E3) • Apply coordinate skills to map references (E3) • Plot and read coordinates in all 4 sectors (L1) • Calculate midpoint of a line graphically (L1) • Calculate midpoint of a line (L2)

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Symmetry and transformations	- Selection of road signs to complete or identify line of symmetry on. - 10Ticks L3-6 p33-36 - 10Ticks L4-7 pages 29-36 - 10Ticks L4-8 p29 - 10Tcks L5-4 p31-35 - 10Ticks L6-2 p3-10, 11,12, 13-16, 17-22 - 10Ticks L6-8 p17-22 - 10Ticks L7-4 p31-42 - MyMaths (shape) – Symmetry (symmetry, lines of symmetry, rotation symmetry) - MyMaths (shape) – Transformations (translating, reflecting, rotating, enlarging)	• Create tessellations by repeated drawing of simple shapes (E1) • Create reflections using lines of symmetry (E2) • Draw lines of symmetry on shapes or pictures (E3) • Describe and Demonstrate simple transformations (L1)
Pythagoras and Trigonometry (GCSE Only – grades 4/5)	• 10Ticks L7-2 p3-12 • 10Ticks L7-5 p29-42	• Identify sides of triangles using adjacent, opposite, hypotenuse (L1) • Calculate value of missing side given the 2 other sides in right angled triangles (L2) • Calculate value of missing sides given 1 side and 1 angle in right angled triangles (L2) • Calculate value of missing angle given 2 sides in right angled triangles (L1 • Calculate values of missing sides and angles in non-right-angled triangles (L2)
Progress Check	*Reviewing progress activities – complete the appropriate tasks below* - mark and record score – gap analysis for topics (RAG) ready for when we return and review the learning area in subsequent years. 1. **GCSE 1-2 & Entry Level – Geometry** – complete assignment paper A - 2. **GCSE 3-5 & Functional Skills** a) 2D representations of 3D – nets, plans & elevations b) Angles – 1,2,3, parallel lines, polygons , bearings c) Properties of polygons d) Transformations – symmetry, reflection, rotation, enlargement, translation e) Congruence & similarity – grade 4/5 f) Pythagoras' Theorem – grade 4/5 g) Trigonometry – grade 5/6	