NORTH GOWER PARTNERSHIP

THREAD: Position and Angles **AOLE: Mathematics and Numeracy**

Progression Step 1		
Knowledge and Skills	**Vocabulary**	**Experiences and Characteristics**
Moves themselves or objects following directional language, e.g. backwards, to the side. Finds items from simple positional and directional clues Uses simple prepositions to describe position, e.g. under/on/in front Explores movements and directions and is beginning to use mathematical language to describe position Use ordinal numbers in relation to position	Backwards, under, on top of, inside, outside, above, below, behind, front, forwards, first, second, third, start, end	**Essential** Racing e.g. sports day. Games Following simple instruction for a task e.g. construction, art P.E. **Enrichment** Beebot Coding

Opportunities to develop proficiencies

Conceptual Understanding
Be able to follow simple instructions whilst playing and in other areas, e.g. PE, using Beebot

Communication using symbols
Use arrows to denote direction

Fluency
Counting in 1s

Logical Reasoning
Find a different way to do something

Strategic competence
Can you give directions to find something?

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Progression Step 2		
Knowledge and Skills	**Vocabulary**	**Experiences and Characteristics**
Being able to turn clockwise and anticlockwise Being able to turn half, quarter and full turn. Being able to recognise a right angle in the environment. Uses the language of position Follows directions given using words associated with directions, e.g. right turn, left turn Uses the four compass points to describe directions Demonstrates knowledge of horizontal and vertical location Use basic grid symbols eg A5	Horizontal, vertical, right turn, left turn, clockwise, anticlockwise, north, south, east, west	**Essential** Racing e.g. sports day. Games Following instruction for a task e.g. construction, art P.E. **Enrichment** Beebot Coding JiT tutle Lego Treasure hunt Outdoor learning
Opportunities to develop proficiencies **Conceptual Understanding** Communication using symbols		

Fluency
Count in quarters

Logical Reasoning
Problem-solving, what went wrong, find a different way
Find the shortest route, avoid obstacles

Strategic competence
Problem-solving skills involving multiskilled tasks e.g. treasure hunt, following a map, obstacle course.
BeeBot, coding, JiT turtle, LOGO

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Progression Step 3		
Knowledge and Skills	**Vocabulary**	**Experiences and Characteristics**
Demonstrates understanding of angle as a measure of rotation and recognises, names and describes types of angles Measure and draw angles with a protractor Be able to estimate Find missing angles e.g. angles on a straight line, angles to a point, vertical opposite angles. Find missing angles in triangles (extending to isosceles, equilaterals and problems with external angles) Describes positions on the full coordinate grid (1st quadrant then extending to all 4 quadrants) Solves problems involving position on a coordinate grid Uses grid references to specify location (4 figure grid references)	Axes Scale Clockwise, anticlockwise Origin Vertical Horizontal Coordinates Quadrant Acute Obtuse Reflex Degrees Protractor Estimate Rotate Vertex Isosceles Equilateral Internal External	**Essential** P.E. Map reading Orienteering **Enrichment** Outdoor learning Local walks with maps.

Opportunities to develop proficiencies		
Conceptual Understanding Use of simple scales, reading scales accurately including negative numbers Communication using symbols Use of coordinate grids Labelling axes X and Y Use grid references to find locations. Linked to local area. Negative symbol **Fluency** Using a variety of scales and in a variety of contexts **Logical Reasoning** Coordinates linked to grid references **Strategic competence** Making coordinate shapes and communicating the instructions to a partner Problem-solving skills involving multiskilled tasks e.g. treasure hunt		

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Progression Step 4		
Knowledge and Skills	**Vocabulary**	**Experiences and Characteristics**
Uses grid references to specify location (6 figure grid references) Define and measure 3 figure bearings I can use angle and shape facts to deduce further features and relationships of triangles and quadrilaterals. I can explore and calculate angles formed by parallel lines and by a transversal. I have applied my understanding of angles to model and solve problems involving bearings	Northings Eastings Alternate angles Corresponding angles Co-interior angles Parallel Parallelogram	

Opportunities to develop proficiencies

Conceptual Understanding
Understanding the relationship of bearings and grid references in relation to maps and real life.

Communication with Symbols
Correct notation and units for grid references, bearings using degrees.

Fluency
Calculating missing angles in shapes and parallel lines

Logical Reasoning
Proving the value of angles using correct use of rules and theorems

Strategic Competence
Combining shape facts with understanding of angles to solve problems