



Teacher	Subject	Class	No	Male	Female	Support Teacher / Assistant and responsibilities within class
	Maths					None
Date:	Time:	Room:				

Focus of the Lesson:	Previous Learning
Investigate mathematical relationships and build connections between different areas of mathematics.	Basic algebra, coordinates, sequences, input/output tables

Learning Objective(s):	Tiered Learning Outcomes	
Be able to understand mathematical relationships given in a variety of contexts.	Grades / Assessment	5 or D
		5+ or C/D
		6 or C
	Be able to use number machines to create a table of input out values	Be able to create an algebraic statement from a number machine
		Be able to find the rule for a n^{th} term of a sequence

Key Questions	Keys Words/Vocabulary
What is the sequence going up in?	Coordinate, x, y, input output, sequence, gradient, term, position
What is the output if the input is zero?	
What is the output if the input is x?	
What are some of the x,y cords of the graph?	

Students with Special Educational Needs	SEN Details	Learning needs met by
Boryana Koleva	EAL	Clear explanations

Boys learning needs met by
Directed task to be explored, use of scrap paper for jotting ideas, working in teams to develop ideas.

Students on the Gifted and Talented Register	Learning needs met by
	These students encouraged to extend and generalise concepts further.

Assessment Opportunities							
Teacher assessment	Y	Homework		Questions & answers		Performance	
Group assessment		Written class work		Visual presentation			
Self assessment	Y	Practical work		Oral presentation			
Peer assessment	Y	Physical activity		Text/Exam			

Cross Curricular Links				Health Specialism	Science Specialism
Citizenship		Literacy			
Numeracy	Y	ICT			

Homework



Time		Learning Activities (including differentiation and support staff tasks)	What assessment will take place (How will you/pupils know that the lesson outcomes have been achieved?)
Engage	10mins	<ul style="list-style-type: none"> Write sequence on board, ask students questions to explore it: 4, 7, 10, 13... $3x+1$ Write number machine on board, ask students questions to explore it: $x^2 - 3$, $2x-3$ Write input output table on board, ask students questions to explore it: x 0-4, y 2,7,12,17,22, $5x+2$ Show graph on board, ask students questions to explore it: $y=2x+4$ 	<p>Assess quality of suggestions irrespective of whether maths is right or wrong. Assess maths of suggestions for if right or wrong. Assess frequency of suggestions.</p> <p>Look for suggestions from; Jasper, Kai, Josh, Taylor, Support; Charlie, Tia, Louise</p> <ul style="list-style-type: none"> Autograph Notebook
Explore, challenge, apply	30mins	<p>Give out task, encourage students to check what aspects of it they recognize.</p> <p>Discuss mathematical things they could do to investigate the information given.</p> <p>Allow students time to begin investigating and then draw back together in order to check everyone understands task.</p> <p>The goal is for students to realise that all the information represents the same thing.</p> <p>If necessary, task 2: use equations on board and tell students to write as number machines then use these to create input output tables etc.</p>	<ul style="list-style-type: none"> Worksheets Powerpoint with suggestions of what to do <p>Assess pupils understanding of task</p> <p>Assess pupils as they work, assess to check their maths is correct.</p> <p>Assess via suggestions required for what to do.</p> <p>Decision point: If pupils need more support then go to second task: a more directed approach.</p> <ul style="list-style-type: none"> Task 2
Review	10mins	<p>Draw out from pupils that all the information represents the same thing.</p> <p>Use second example from first task if necessary. Ask students to assist with explicitly showing how all info relates to each other.</p> <p>Begin asking about gradient of graph, where crosses y axis etc.</p> <p>Extension – ask students to create their own algebra, input/output tables, graphs, words, sequences and number machines.</p>	<p>Assess understanding, assess via contributions given, via responses and questions asked.</p>

Resources

See RHS.

Yellow box indicates part of lesson in which key progress will be made