Knowledge Rich Curriculum Plan

Year 7 Support – Sequences and Graphs

Lesson Objective	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this, students need to already know that…*	Assessment
To learn how to continue sequences of diagrams and numbers and identify the term-to-term rule	• Students will know how to find the next terms in pattern sequences • Students will know how to continue linear sequences to find subsequent terms • Students will know how to continue geometric sequences to find subsequent terms • Students will know how to continue other simple sequences • Students will know how to identify the term to term rule for an arithmetic sequence • Students will know how to identify the term to term rule for a geometric sequence • Students will know how to use ascending/descending to describe sequences.	**Sequence** - a particular order in which related things follow each other. **Ascending** – going up **Descending** – going down **Linear or Arithmetic Sequence** – a number pattern which increases (or decreases) by the same amount each time **Geometric Sequence** – a sequence made by multiplying by the same value each time	• Students will need to know how to recognise a sequence	Mini-Assessment 6
To learn how to find missing terms in sequences given the term-to-term rule	• Students will know how to find missing terms in a sequence given the term-to-term rule • Students will know how to find missing terms in a sequence by first finding the term-to-term rule		• Students need to know how to add and subtract	Mini-Assessment 6
To learn how to generate a sequence from the nth term	• Students will know how to generate a linear sequence using the nth term	**Generate** – produce or create. **Substitute** – use or add in place of	• Students will need to know how to substitute numbers into formulae	Mini-Assessment 6
To learn how to find the nth term of a linear sequence	• Students will know how to find the nth term of a linear sequence. • Students will know how to find the nth term of a pattern sequence. • Students will know how to solve problems involving sequences from real life situations.	**Linear or Arithmetic Sequence** – a number pattern which increases (or decreases) by the same amount each time	• Students will need to know how to describe the term-to-term rule for a sequence	Mini-Assessment 6
To learn how to write and plot coordinates in all four quadrants	• Students will need to know that the horizontal axis is the x-axis and that the vertical axis is the y-axis. • Students will know how to plot coordinates in all four quadrants. • Students will know how to write the coordinates of a point plotted in any of the four quadrants	**Coordinate** – two numbers or sometimes a letter and a number, that locate a specific point on a grid. They are written in the form (x, y) most commonly. **Vertical** – something that is vertical stands or points straight up **Horizontal** – something that is arranged sideways, parallel to the horizon, like a person lying down **Quadrant** – one of the four quarters of the coordinate plane	• Students will need to know how to read from a number line	Mini-Assessment 6

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Lesson Objective	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this, students need to already know that…*	Assessment
To learn how to draw straight line graphs	• Students will need to know how to plot and draw graphs that are parallel to either the x- or y-axis (equations in the form y = a, x = a) **Opportunity for challenge:** • Students will know how to plot graphs in the form y = x or y = -x		• Students will need to know how to plot coordinates	Mini-Assessment 6
To learn how to draw straight line graphs	• Students will know how to plot graphs in the form y = x + c or y = x - c • Students will know how to plot graphs in the form y = mx **Opportunity for challenge:** • Students will know how to plot straight line graphs in the form y = mx + c by first completing a given table of values	Substitute – use or add in place of	• Students will know how to plot and draw graphs of y = a, x = a, y = x and y = –x, drawing and recognising lines parallel to axes. • Students will know how to draw y = x and y = -x	Mini-Assessment 6