


Subject	Year	Month	
Mathematics	9	Nov/Dec	
Topic:			
TIME SERIES, FREQUENCY POLYGONS AND SCATTER GRAPHS			5 LESSONS
Content (Intent)			
<p>Prior Learning</p> <p>Y7</p> <ul style="list-style-type: none"> Averages and range Frequency tables Comparative bar charts Pie charts <p>Y8</p> <ul style="list-style-type: none"> Types of data (e.g. discrete vs continuous) Averages from frequency tables bar charts, pie charts, vertical line charts Intro to scatter diagrams 	<p>Future Learning</p> <ul style="list-style-type: none"> Cumulative Frequency graphs Interquartile range Box and Whisker Plots 		
<p>Objectives</p> <ul style="list-style-type: none"> Construct and interpret graphs of time series Interpret and construct frequency polygons Interpret a scatter diagram using understanding of correlation Construct a line of best fit on a scatter diagram and use the line of best fit to estimate values Know when it is appropriate to use a line of best fit to estimate values Understand that correlation does not indicate causation 	<p>For teaching purposes</p> <p>Possible Questions</p> <ul style="list-style-type: none"> What's the same and what's different: correlation, causation? What's the same and what's different: scatter diagram, time series, line graph, compound bar chart? Convince me how to construct a line of best fit. Always/Sometimes/Never: A line of best fit passes through the origin <p>Misconceptions</p> <ul style="list-style-type: none"> may think that correlation implies causation may think that a line of best fit always has to pass through the origin may misuse the inequality symbols when working with a grouped frequency table 		
Pedagogical notes (implementation)	How will understanding be assessed & recorded (Impact)		
<p>Students may have encountered both lines and curves of best fit in science by this time.</p> <p><i>As a way of recording their thinking, all students construct the appropriate horizontal and vertical line when using a line of best fit to make estimates. In simple cases, students plot the 'mean of x' against the 'mean of y' to help locate a line of best fit.</i></p> <p>Notation Correct use of inequality symbols when labelling groups in a frequency table</p>	<p>End of Term assessment in December Exams in May</p>		<p>How can parents help at home?</p> <p>MathsWatch clips (Qualification KS3) 65b, 153, 129</p>
Further reading/discussion			
<p>Reading / Enrichment</p> <p>KM: Stick on the MathsHD2: Frequency polygons and scatter diagrams</p>	<p>Literacy</p> <p>Categorical data, Discrete data Continuous data, Grouped data Axis, axes Time series Compound bar chart Scatter graph (scatter diagram, scattergram, scatter plot) Bivariate data (Linear) Correlation Positive correlation, Negative correlation Line of best fit Interpolate Extrapolate Trend</p>	<p>Numeracy Links</p>	<p>Careers Links</p> <p>Statistical analyst</p>