Subject	Year	Month	
Mathematics	10	June	Balcarras From strength to strength

Topic:

Real life graphs 2 lessons

Content (Intent)

Prior Learning	**Future Learning**
Year 10 Straight line graphs May	

Objectives

- Use input/output diagrams;
- Use axes and coordinates to specify points in all four quadrants in 2D;
- Identify points with given coordinates and coordinates of a given point in all four quadrants;
- Find the coordinates of points identified by geometrical information in 2D (all four quadrants);
- Find the coordinates of the midpoint of a line segment;
- Draw, label and scale axes;
- Read values from straight-line graphs for real-life situations;
- Draw straight line graphs for real-life situations, including ready reckoner graphs, conversion graphs, fuel bills graphs, fixed charge and cost per unit;
- Draw distance–time graphs and velocity–time graphs;
- Work out time intervals for graph scales;
- Interpret distance–time graphs, and calculate: the speed of individual sections, total distance and total time;
- Interpret information presented in a range of linear and non-linear graphs;
- Interpret graphs with negative values on axes;
- Interpret gradient as the rate of change in distance–time and speed–time graphs, graphs of containers filling and emptying, and unit price graphs.

Pedagogical notes (implementation)	**How will understanding be assessed & recorded (Impact)**
Clear presentation of axes is important. Ensure that you include questions that include axes with negative values to represent, for example, time before present time, temperature or depth below sea level. Careful annotation should be encouraged: it is good practice to get the students to check that they understand the increments on the axes. Use standard units of measurement to draw conversion graphs. Use various measures in distance–time and velocity–time graphs, including miles, kilometres, seconds, and hours.	**End of half term** no **End of Year** Year 11 mocks in November **How can parents help at home?** **MathsWatch clips** **Qualification KS3:** A1ab, A21ab **Qualification KS4:** 8, 113, 133, 143, 216ab

Further reading/discussion

Reading / Enrichment	**Literacy**	**Numeracy Links**	**Careers Links**
http://passyworldofmathematics.com/straight-line-graphs/			Medicine Economist Meteorologists Actuaries graph risks