**Gulf English School Term 1 IG2 Mathematics**

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| TOPICS: Graphs, Linear Programming, Sequences, indices |

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| Themes: Using graphs to illustrate connections and investigating these connections (optimizing solutions), Use algebra to represent real life processes. | Level: IG2 |
| Objectives: To construct/use: various mathematical graphs, informative, linear and nonlinear. To calculate the gradient of a curve using tangents. To graph inequalities and define regions in linear programming. To find/use the nth term of a linear sequence and apply the laws of indices. |

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| Focussing Questions | Key Words |
| **1. Real life graphs*** IGCSE Chapter 14. Ex 14a – 14c,
* What does the steepness of the line tell us in a

distance-time/speed-time graph?* + Assessment: Topic Test

**2. Straight line graphs*** Chapter 15, Ex 15a – 15d
* Are the lines y = 3 + 2x, y – 2x = 7 and 8 + y – 2x = 0 parallel to each other?
* Show me a point on a line (e.g. y = 2x + 1).
	+ Assessment: Topic Test

**3. Graphs of functions*** Chapter 16 Ex 16a - 16d
* What is the same and what is different: y = x, y = x2, y = x3 and y=1/x ?
	+ Assessment: Topic Test

**4. Linear Programming*** Chapter 20 Ex 20a – 20c
* Convince me that the set of inequalities x ≥ 0, y > 0 and x + 2y < 6 has 6 pairs of positive integer solutions.
	+ Assessment: Topic Test

**5. Sequences*** Chapter 17 Ex 17a – 17d
* Always/ Sometimes /Never: The 10th term of a linear sequence is double the 5th term of the linear sequence
	+ Assessment: Topic Test

**6. Indices*** IGCSE Chapter 18 Ex 18a – 18c
* How can we simplify 58 ÷ 53?
* Always/ Sometimes /Never: A number to the power zero is 1?
	+ Assessment: Topic Test

Assessment: Cumulative half term test | Axes, Gradient, Steepness, Parallel, Perpendicular, Reciprocal, Y-intercept, Function, Quadratic, Tangent, Rate of Change, Table of values,Inequality,Optimize, Test point,Feasible region,nth term, Linear sequence, Arithmetic progression,Common difference,Exponential, Power, Base | Explaining wordsMy rationale for … is…The definition of … states that… so…Therefore...Hence…The un-shaded region represents the solution set of… |

**TEXT BOOK: COLLINS CAMBRIDGE IGCSE**