



PUTTING THE FUN BACK
INTO LEARNING!

Dear Parents and Guardians,

Welcome to the Mathematics Department's February Curriculum Guide.

The Maths Department would like to share with you a very useful online resource for all grades:
www.corbettmaths.com

If you follow the links from the homepage, the website contains videos, practice questions (with answers) and for IGCSE students there is a further option for exam style questions.

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Curriculum Content for February

Each grades' curriculum is aligned so that the progression from Grade 6 to Grade 10 is transparent, relevant and evident in all of the pupils' tasks.

Grade 6:

- Revisit algebra skills. For example, collecting like terms, multiplying with brackets, identifying common factors and factorizing expressions.
- Substitute into formula.
- Graph linear equations.
- Understand and use the $y=mx+c$ format of a linear equation.
- Plot graphs of equations that correspond to straight-line graphs in the coordinate plane; use the form $y = mx + c$ to identify parallel and perpendicular lines; find the equation of the line through two given points or through one point with a given gradient.

Keywords: factors, multiples, coefficient, axis, coordinate, slope, gradient, intercept.

Grade 7:

- Plot and interpret graphs and graphs of non-standard functions in real contexts to find approximate solutions to problems such as simple problems involving distance and time.
- Revisit the use of proportion, particularly simplifying fractions.
- Simplify with ratio and express proportions as a ratio.
- Answer questions of proportion using ratio.

Keywords: numerator, denominator, multiple, axis.

Grade 8:

- Revisit algebra, particularly the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors.
- Where appropriate, interpret simple expressions as functions with inputs and outputs; ; interpret the reverse process as the 'inverse function'.
- Solve quadratic equations (including those that require rearrangement) algebraically by factorizing and in appropriate cases using the quadratic formula.
- Find approximate solutions using a graph solve two simultaneous equations in two variables (linear/linear or linear/quadratic)
- Find solutions to simultaneous equations algebraically.

Keywords: coefficient, term, factor, multiple, expression, equation, intersection.

Grade 9:

Topics taught for IGCSE have been set specifically for the students taking this course, students will complete a selection of the following depending upon their set.

The Higher and Foundation tier candidates are studying towards the following objectives:

- Transform shapes by rotation, reflection, translation and enlargement (including fractional and negative scale factors)
- Use scale factors, scale diagrams and maps
- Express a multiplicative relationship between two quantities as a ratio or a fraction
- Use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle).
- Use these to construct given figures and solve loci problems; know that the perpendicular distance from a point to a line is the shortest distance to the line

Keywords: factor, multiplier, axis, origin, numerator, denominator, parallel, perpendicular, point.

Grade 10:

As this Grade will be sitting IGCSE examinations at the end of this year topics will be taught in tandem to revision of last year's topics.

February will be focused on revising for the students' mock examinations as well as completing the curriculum. Time will be split in lessons each week to reflect this.

Foundation

- Find the probability of an event happening using theoretical probability;
- List all outcomes for single events systematically;
- Identify different mutually exclusive outcomes and know that the sum of the probabilities of all outcomes is 1;
- Using $1 - p$ as the probability of an event not occurring where p is the probability of the event occurring;
- Find a missing probability from a list or table including algebraic terms;
- Find the probability of an event happening using relative frequency;

- Use and draw sample space diagrams;
- Work out probabilities from Venn diagrams to represent real-life situations and also 'abstract' sets of numbers/values;
- Compare experimental data and theoretical probabilities
- Compare relative frequencies from samples of different sizes
- Use tree diagrams to calculate the probability of two dependent events.
- Exam preparation and exam techniques.

Higher

- Applying Pythagoras' Theorem and Trigonometry to Right Angled Triangle Problems and 3D shapes.
- Sine and Cosine Rule to calculate missing length and angles in Non Right Angled Triangles
- Using the Sine Rule to calculate the area of Non Right Angled Triangles.
- Solving Simultaneous Equations both graphically and algebraically.
- Revising the use and application of Vectors
- Revising the use and application of percentage increase / decrease as well as compound interest.
- Exam preparation and exam techniques.
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Keywords: union, intersection, hypotenuse, magnitude, amount, frequency, cumulative.

How can you help?

Make sure your child comes to school prepared.

Teach them to check and pack their own school bags so that they know exactly what is inside them.

Make sure their books and stationery are marked with their name.

Ensure their pencil case is always stocked with stationery which MUST include:

HB pencils, a rubber, a sharpener, a blue or black pen, a red pen, a 30cm-ruler, a Geometry Set, a scientific calculator, a glue stick, a whiteboard pen and eraser and scissors

Regularly check Bric and guide the children towards the completion of the task given as homework.

Do not complete homework for your children or we cannot assess their needs and progress accurately.

Encourage your child to speak to their teacher with regard to interactive websites for further study as well as electronic guides that can help their studies as appropriate to their grade.

Thank you for your ongoing support

The Maths Department