## Year 2 Express Mathematics Course Outline

|  | Content |
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| Term 1 |  |
| 1 | Linear Inequalities |
| 1.1 | Solving simple inequalities |
| 1.2 | Word Problems on linear inequalities |
| 2 | Linear Equations in Two Variables |
| 2.1 | Meaning of Simultaneous Equations |
| 2.2 | Solving Simultaneous Equations using <br> Elimination Method <br> Substitution Method <br> Graphical Method |
| 2.3 | Solving problems using simultaneous equations |
| 3 | Expansion \& Factorization of Algebraic Expressions |
| 3.1 | Expansion of products of Algebraic Expressions |
| 3.2 | Special Products of Algebraic Expressions |
| 3.3 | Factorization using Special Products of Algebraic Expressions |
| 3.4 | Factorization using Grouping Method |
| 3.5 | Factorization of Quadratic Expressions |
| Term 2 |  |
| 4 | Algebraic Fractions \& Formulae |
| 4.1 | Simplifying simple algebraic fractions |
| 4.2 | Multiplication and division of algebraic fractions |
| 4.3 | Addition and subtraction of algebraic fractions |
| 4.4 | Changing of subject of formula and substitution in a formula |
| 5 | Quadratic Functions, Graphs \& Equations |
| 5.1 | Graphs of Quadratic Functions |
| 5.2 | Solving Quadratic Equations by Factorization |
| 5.3 | Application of Quadratic Equations |
| 6 | Proportion |
| 6.1 | Map Scale Calculation of distance and area |
| 6.2 | Direct Proportion |
| 6.3 | Inverse Proportion |
| 7 | Congruence and Similarity |
| 7.1 | Meaning of Congruence and Similarity |
| 7.2 | Solving simple problems involving congruence \& similarity |
| 7.3 | Meaning of scale factor and solving simple problems on scale drawings. |
| Term 3 |  |
| 8 | Pythagoras Theorem |
| 8.1 | Pythagoras Theorem |
| 8.2 | Applications of Pythagoras Theorem |
| 8.3 | Determination of right-angled triangles using converse of Pythagoras Theorem |


| $\mathbf{9}$ | Trigonometric Ratios |
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| 9.1 | Trigonometric Ratios |
| 9.2 | Trigonometric Ratios \& Applications |
| $\mathbf{1 0}$ | Volume \& Surface Area of Pyramids, Cones and Spheres |
| 10.1 | Volume and surface area of a pyramid |
| 10.2 | Volume and surface area of a cone |
| 10.3 | Volume and surface area of a sphere |
| $\mathbf{1 1}$ | Statistical Diagrams |
| 11.1 | Drawing and Interpreting of Dot Diagram |
| 11.2 | Drawing and Interpreting of Stem and Leaf Diagram |
| 11.3 | Drawing and Interpreting of Histogram |
| $\mathbf{1 2}$ | Measure of Central Tendency |
| 12.1 | Measure of Central Tendency: mean, median and mode |
| $\mathbf{T e r m ~ 4}$ |  |
| $\mathbf{1 3}$ | Probability |
| 13.1 | Meaning of Probability and solving simple problems on <br> probability |
| 13.2 | Definition of Sample Space and solving simple problems <br> involving Sample Space |

