

## NSF Pre-Mathcounts Coaching - Syllabus

| <b>Beginner</b>                                    | <b>Intermediate</b>  | <b>Advanced</b>                    |
|--|--|------------------------------------|
| Measurements and Units                             | Percentages  | Permutations and Combinations      |
| Decimals and Fractions                             | Prime Factorization, GCF, LCM                              | Probability                        |
| Fractions Review                                   | Probability  | Arithmetic and Geometric Series    |
|  | Statistics- I  |                                    |
| Ratio & Proportion and similar figures             | Mean, Mode, Median   | Systems of Equations               |
| Absolute Values                                    | Algebra Variables -1                                       | Systems of Equations Word Problems |
| Geometry   | Application of Algebra with one variable                   | Solving Inequalities               |
| Divisibility - LCM, GCF                            | Application of Algebra - age related problems              | Geometry - Right Triangles         |
| Singapore Math - Alternate way of solving problems | Application of Algebra - perimeter and investment problems | Venn Diagrams                      |
|  | Statistics- 2  |                                    |
| Sequences, Series, Patterns                        | Frequency, stem and leaf plots                             | Coordinate Geometry                |
| Graphs and Data                                    | Geometry-1 Angles and Pythagoras theorem                   | Compound Interest                  |
| PEMDAS   | Geometry -2 - Parallel Lines Ratio proportion              | Sector Area and Length             |
| Number Sense Tricks                                | Geometry-3 Areas and Volume                                | Revision of Probability            |
| Percent Proportion                                 | Work problems - direct and inverse variation               | Composite Functions                |
| Squares, Square roots, Areas, Geometry             |  | Polynomials                        |
| Review   |  | Review of all weeks                |