

Each number (1-25) roughly means a weekly topic. Realistically, it could take approximately 30-33 weeks to complete the topics.

UNIT X: Time and Elapsed Time (i.e. around New Year's) (include Roman Numerals)

Unit A: What Do Numbers Mean?

1. Numeration and Place Value and Rounding
Counting (gr. 5): Whole, Fraction, Positive/Negative (including temperature)
Counting (gr. 8): Integers, Rational, Irrational
2. Divisibility and Primes, Factors and Multiples (GCF, LCM), Factor Trees
3. Powers (exponents) and Roots (squares/cubes), Scientific Notation

Unit B: Calculations: Working with Fractions (Parts) & Whole Numbers – Add & Subtract

4. Fractions – equivalent fractions, adding and subtracting fractions; reducing fractions
5. Fractions - changing mixed to improper, improper to mixed, adding and subtracting fractions when it is mixed or improper.
6. Addition – with whole numbers, decimals, review fractions
7. Subtraction – with whole numbers, decimals, review fractions

Unit C: Calculations: Working with Fractions (Parts) & Whole Numbers – Multiply and Divide

8. Multiplication – with whole numbers, decimals, fractions (2 weeks)
9. Long and Short Division – with whole numbers, decimals, fractions (including changing fractions to decimals) (2 weeks)

Unit D: Math for Information Purposes

10. The Metric System terms (intro. – linear only)
11. Graphing (x,y) (slope + some concepts listed under “geometry” in handbooks) (patterning e.g. $n+5$, exponential growth)
12. Statistics (average/mean, median, mode), Charts, and Tables (and graphing games)
13. Mental Math and Estimation (gr. 5) (“Working with Money” – gr. 8)

Unit E: Calculations: Putting All Operations Together to Figure Out Answers!

14. Pre-Algebra/Algebra Notation –
Integers
Common Equations ($F=ma$, $d=rt$, $W=fa$, $A=lw$)
Order of Operations (BEDMAS)
15. Properties (fewer for gr. 5 than gr. 8)
16. Expressions vs. Equations (including “cancelling to simplify”)
17. General Pre-Algebra/Algebra Review and Review Scientific Notation/Exponents, Inequalities (gr. 8)

Unit F: More Applications to Math

18. Ratio and Proportion (some topics under “geometry handbook section e.g. scale)
19. Metric Measurement (e.g. conversion on staircase) (linear, mass, volume)
20. Relations and Functions, Probability and Permutations
21. Percent – changing decimals to fractions,
22. Review: rounding, logic, estimation, accounting income/expense, place value of writing number words/cheques.

Unit G: Geometry

23. Geometry – parallel/perpendicular, angles, and triangle classification, intersections and mid-lines, circle terms
24. Geometry – perimeter and area, volume and nets, surface area
25. Geometry – symmetry, congruency, transformations; complex area/volume/ surface area problems (e.g. holes to subtract from totals).

“Other”: Logic Puzzler Pages and Word Problems (extra)

Bring to piano lessons (one of the things to do while waiting turns).
Use on Fridays when there is extra time if no co-op or other projects on.

(Drills are kept together in a section of their own as well.)

Important! Most or all units **can be rearranged** in a different order, e.g. Unit G could be first in the school year.