



**1. Number Sense and Operations:**

- Operations with integers (positive and negative numbers).
- Order of operations (PEMDAS/BODMAS) for evaluating expressions.
- Prime and composite numbers, factors, and multiples.

**Phet Links:**

[Arithmetic](#)  
[Number Line: Integers](#)

**LabXchange Links:**

[Last Digits](#)  
[Prime Factorizations](#)

**2. Fractions, Decimals, and Percentages:**

- Operations with fractions and mixed numbers (addition, subtraction, multiplication, division).
- Converting between fractions, decimals, and percentages.
- Solving percentage problems.

**Phet Links:**

[Build a Fraction](#)  
[Fraction Matcher](#)  
[Fractions: Intro](#)  
[Fractions: Mixed Numbers](#)  
[Area Model Decimals](#)

**LabXchange Links:**

[Probability](#)  
[Sets & Venn Diagrams](#)

**3. Measurement:**

- Converting between different units of measurement (e.g., metric to imperial units).
- Perimeter, area, and volume calculations for various shapes.
- Time and distance problems involving speed and rates.

**Phet Links:**

[Area Builder](#)  
[The Moving Man](#)

**LabXchange Links:**

[Time, Speed & Distance](#)  
[Coordinates & Equations](#)

**4. Geometry:**

- Properties of 2D shapes (e.g., triangles, quadrilaterals).
- Calculating angles in polygons and parallel lines.
- Volume and surface area of 3D shapes (e.g., prisms, cylinders).

**Phet Links:**

[Area Builder](#)  
[Quadrilateral](#)

**LabXchange Links:**

[Pythagoras' Theorem](#)  
[Coordinates & Equations](#)

**5. Data and Statistics:**

- Probability concepts and calculations.
- Analyzing and interpreting data from tables and charts.
- Measures of central tendency and dispersion (mean, median, mode, range).

**Phet Links:**

[Plinko Probability](#)  
[Mean: Share and Balance](#)

**LabXchange Links:**

[Introduction to Statistics](#)  
[Data Visualization](#)

**6. Algebra:**

- Solving equations with one variable.
- Simplifying algebraic expressions and combining like terms.
- Graphing linear equations.

**Phet Links:**

[Equality Explorer](#)  
[Equality Explorer: Basics](#)  
[Expression Exchange](#)  
[Graphing Lines](#)

**LabXchange Links:**

[Coordinates & Equations](#)  
[Quadratic Equations](#)

**7. Ratios, Proportions, and Rates:**

- Solving problems involving ratios and proportions.
- Understanding rates and unit rates.

**Phet Links:**

[Ratio and Proportion](#)  
[Unit Rates](#)

**LabXchange Links:**

[Sets & Venn Diagrams](#)  
[Probability](#)

**8. Word Problems and Real-Life Applications:**

- Complex word problems involving multiple concepts and operations.
- Applying mathematical skills to real-life scenarios.

**Phet Links:**

[Projectile Motion](#)  
[The Moving Man](#)

**LabXchange Links:**

[Reasoning, Planning and Solving Problems](#)  
[Time, Speed & Distance](#)