

MathLinks: Essentials

Grade 7 Checklist

These four packets address essential 6th grade topics, the major work of the grade. Can your 7th grade students do the following?

Ratio Representations (PR1) focuses on representations and contexts that will help students develop multiplicative thinking (standards 6.RP.A).

- Create and interpret tape diagrams to represent quantities, and then use them to make comparisons. [1]
- Correctly use ratio notation and language to describe comparisons of quantities. [2, 4]
- Given a ratio relationship, create a double number line and use it to solve problems. [3]
- Write equivalent ratios using different methods and representations, and solve problems using ratio equivalence relationships. [2, 3, 4]
- Create tables of data from which ratios can be written and analyzed. [4]
- Clearly explain their thinking about proportional reasoning concepts and solve problems using tables and tape diagrams. [4, 5]

Percents (PR2) focuses on percent (standards 4.NS.C, 6.RP.A, 7.RP.A, 7.NS.A).

- Understand percent as a number, also written as a fraction or a decimal. [6, 7]
- Use long division to change a fraction to a decimal that repeats. [8]
- Find percent of a number using mental and computational strategies. [9, 10]
- Solve percent problems that involve gratuities, markups, discounts, and sales taxes. [10]

Introduction to Integers (IN1) addresses integer concepts (standards 6.NS.C).

- Use number lines and contexts to make sense of integers, comparing and ordering them using inequality statements. [11, 12, 13, 14]
- Understand and explain the concepts of opposites and absolute value. [15]
- Graph integers on the number line and ordered pairs of integers in the coordinate plane. [11, 16, 17]
- Explain thinking about integer concepts and inequalities, and solve non-routine problems. [17]

Variables and Balance (EE1) introduces variables, expressions and equations using meaningful contexts at a 6th grade level (standards 6.EE.A, 6.EE.B).

- Solve balance puzzle problems to get at the meaning of equality. [18]
- Use a real-life context to understand what a variable is and solve problems with expressions and equations. [19]
- Solve equations using a substitution or mental process, or a procedure. [19, 20]
- Clearly explain the difference between expressions and equations and use algebraic vocabulary correctly. [21]