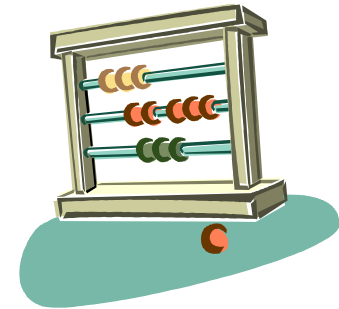


Work with Patterns and Relationships

- extend patterns
- *identify the rule* that generates the pattern
- use models, tables, and graphs to show mathematical relationships
- express a rule with words or algebraic terms
- use rules to complete a table or find the missing element in a sequence
- use variables in simple functions and geometric formulas
- develop an understanding of change over time
- develop an understanding of a constant rate of change in problem solving situations

Work with Data

- record data using pictures, bar graphs, or line graphs
- recognize line graphs are used to represent change over time while bar graphs and pictographs are used to represent categorical data
- use measures of central tendency (mean, median, mode)
- solve problems involving combinations or simple permutations
- determine theoretical probability of an event
- describe probability of an event as part to whole or in fractional form
- design surveys for the purpose of collecting data
- recognize the limitation of sample, fairness of data represented and reliability based on sample size



PARENT RESOURCE

Grade 5 Mathematics

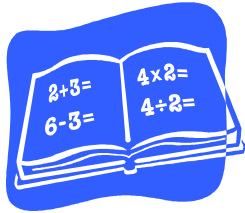
▶ Hartford School District

Hartford School District
73 Highland Ave
White River Junction, VT 05001

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► Grade 5 Mathematics

The goal of fifth grade mathematics instruction is for all students to achieve mathematical proficiency.



The end result is the ability to think and reason mathematically and use mathematics to solve problems. The following outline provides an overview of what students should know and be able to do by the end of fifth grade.

Work with Numbers

- continue to work with large numbers but the main focus is on small numbers
- study proper, mixed, improper fractions
- use fractions as ratios
- compare and order fractions
- reduce and rename fractions
- read, record, and order decimal amounts
- add and subtract up to 5 or 6 digit numbers with or without regrouping
- multiply or divide 3 or more digit numbers by 2 digit numbers
- memorize multiplication and division facts through 12
- identify and use prime and composite numbers, multiples and factors
- add, subtract, multiply, and divide decimals
- add and subtract, multiply fractions
- figure 10%, 25%, 50%, 75%, and 100% of whole numbers

Work with Geometry and Measurement

- use attributes of angles or sides to distinguish among different types of triangles, quadrilaterals, and three dimensional shapes
- recognize perpendicular, parallel and intersecting lines
- use tools to construct triangles and quadrilaterals
- develop understanding of congruency and similarity
- develop understanding of perimeter of polygons
- develop understanding of area of rectangles, right triangles, and polygons or irregular figures on grids
- develop understanding of the volume of rectangular prisms
- learn formulas for calculating volume, area and perimeter
- measure length using inches, feet, yards, centimeters, meters, miles and kilometers
- 12 in. = 1 foot, 100 cm = 1 m, 3 ft. = 1 yard, 36 in. = 1 yard, and 10 mm. = 1 cm.
- 24 hours in 1 day, 7 days in 1 week, 365 days in 1 year, 60 seconds in 1 minute, and 60 minutes in 1 hour
- tell time to the nearest minute
- use degrees ($^{\circ}\text{C}$ and $^{\circ}\text{F}$) to tell temperature
- measure capacity using quarts, gallons and pints
- 32 ounces in 1 quart; 4 quarts in 1 gallon; 2 pints in 1 quart
- measure mass using pounds, ounces, kilograms and grams
- 16 ounces = 1 pound
- use coordinates to locate points on a four quadrant grid
- label grids with x and y axes.