

THIRD - FIFTH GRADE OVERVIEW

The mathematics program in Grades 3-5 focuses on building on students' prior knowledge to allow them to progress from the foundation gained in early mathematics experiences to actively constructing new knowledge. In these grades, students develop mathematical skills and insights and use them in solving meaningful problems.

Students in Grades 3-5 are primarily concrete learners; however, they are developing skills to make the transition into abstract thinking through pictorial models and symbols. By nature they are inquisitive, respond well to genuine praise, and experience increased social and emotional development. They begin to make many of their own decisions and may progress from teacher dependency into a self-guided stage as they learn to evaluate their own thinking and the thinking of others. As students become empowered with the ability to interpret their world, they show enthusiasm and interest in mathematics.

The environment for students in Grades 3-5 encourages them to become independent thinkers as they relate mathematics to the real world. This environment is active, problem-rich, and stimulating. Students work together to build a community of mathematical learners as their ideas become a source of learning. A well-balanced mathematics curriculum provides materials for learning, technology for teaching, and opportunities for students to engage in cooperative learning. This environment includes on-going assessments with a focus on student understanding and procedural skills. Teaching practices reflect a commitment to both equity and excellence.

Students in Grades 3-5 encounter a range of representations and problem-solving situations that empower them to move from the concrete to the abstract. The curriculum emphasizes computational fluency in basic operations, problem solving, reasoning, and number sense. It also promotes student acquisition of the skills and strategies necessary to comprehend new and challenging mathematical concepts.

THIRD GRADE

Students in third grade are active and inquisitive. They are primarily concrete learners, acquiring knowledge through hands-on experiences. Instructional tasks that relate to their personal lives stimulate their interest.

Third-grade students need a classroom environment that helps them learn to work together as a community of learners. This environment provides an atmosphere in which students are recognized as individuals whose ideas are valued, and one in which opportunities are provided for all individuals in the classroom to work together as members of a team. In such an environment, students feel less threatened about making mistakes and have a more positive attitude toward receiving ideas for improvement.

Third-grade students enjoy intellectually stimulating activities that promote enthusiasm and capture their interest. Such activities better enable students to make sense of mathematics. Students compare and order whole numbers, identify two-dimensional figures based on attributes, expand their knowledge of measurement and data analysis, and strengthen computational fluency by applying problem-solving strategies. The third-grade content enables students to use mathematics in other disciplines and to connect mathematics to the real world.

Number and Operations

Students will:

1. Demonstrate number sense by comparing, ordering, and expanding whole numbers through 9999.
 - Comparing numbers using the symbols $>$, $<$, $=$, and \neq
 - Identifying the place value of any digit within a four-digit number
 - Writing a four-digit number in words and locating it on a number line
 - Determining the value of a number written in expanded notation to the ten-thousands place
Example: $3,000 + 400 + 20 + 1 = 3,421$
 - Rounding whole numbers to the nearest ten and hundred and money values to the nearest dollar

2. Solve addition and subtraction problems, including word problems, involving two- and three-digit numbers with and without regrouping.

- Estimating sums and differences by using compatible numbers, front-end estimation, and rounding

Examples: compatible numbers— $24 + 26 = 25 + 25$

front-end estimation— 72 is approximately 70
 $\underline{-36}$ $\underline{-30}$

rounding— 172 is approximately 200
 $\underline{+369}$ $\underline{+400}$

- Demonstrating computational fluency in addition and subtraction

3. Multiply whole numbers with and without regrouping using single-digit multipliers.

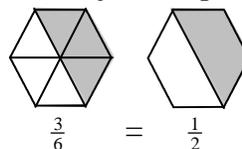
- Applying concepts of multiplication through the use of manipulatives, number stories, arrays, repeated addition, or problem situations
- Applying basic multiplication facts through 9×9 by using manipulatives, solving problems, and writing number stories
- Recognizing properties of multiplication

4. Divide whole numbers using two-digit dividends and one-digit divisors.

- Recognizing division as repeated subtraction

5. Model equivalent fractions with concrete objects or pictorial representations.

Example: pattern blocks—



6. Use coins to make change up to \$1.00.

- Determining monetary values of sets of unlike coins and bills up to \$5.00

Algebra

7. Complete a given numeric or geometric pattern.

Examples: geometric pattern— $\triangle \square \triangle \triangle \square \triangle \triangle \square$;

numeric pattern—20, 27, 34, 41, _____

Geometry

8. Identify geometric representations for points, lines, perpendicular lines, parallel lines, angles, and rays.
 - Recognizing real-life examples of points, lines, perpendicular lines, and parallel lines
 - Drawing points, lines, and perpendicular lines
9. Specify locations on a coordinate grid by using horizontal and vertical movements.

Measurement

10. Measure length in metric units.
11. Determine elapsed time to the day with calendars and to the hour with a clock.
 - Calculating elapsed time to the minute within the same hour
 - Applying vocabulary associated with time using *a.m.*, *p.m.*, *noon*, or *midnight*

Data Analysis and Probability

12. Recognize data as either categorical or numerical.
 - Examples: categorical—gender, race, languages spoken, genre;
 - numerical—age, height, weight
 - Comparing related data sets
13. Determine the likelihood of different outcomes in a simple experiment.
 - Example: determining that the spinner is least likely to land on red in this diagram

