

MATH

Year 5

(140 hrs, 4 hrs per week, reserve – 40 hrs)

Table of contents	
1.	<p>Natural numbers and operations with them. Geometrical figures and values</p> <p>Natural numbers. Zero. Digits. Decimal form of natural numbers. Comparison between the natural numbers. Arithmetic operations with natural numbers and features thereof. Square and cube of a natural number. Division with remainder. Numerical phrases. Letter phrases and formulas. Equations. Fragment, line, and ray. Scale. Cross ray. Angle and angle degree measurement. Types of angles. Triangle and its perimeter. Types of triangles by angles. Rectangle. Square. Area and perimeter of a rectangle and a square. Rectangle parallelepiped. Cube. Volume of a rectangle parallelepiped and cube. Pyramid.</p>
2.	<p>Fractional numbers and operations with them</p> <p>Common fractions. Simple and composed fractions. Common fractions and dividing of natural numbers. Mixed numbers. Comparing common fractions with equal nominators. Adding and subtracting common fractions with equal nominators. Decimal fraction. Writing down of decimal fractions. Comparing decimal fractions. Rounding of decimal fractions. Arithmetic operations with decimal fractions. Percents. Arithmetic mean. Mean value.</p>
<p>Expected results</p> <p>Pupil:</p> <ul style="list-style-type: none"> ● reads and writes down: natural numbers within billion; common and decimal fractions; and mixed numbers; ● uses: arithmetic operations with natural numbers; ● explains what is: a natural number; square and cube of a natural number; line; ray; cross ray; angle; triangle; square; rectangle; rectangle parallelepiped; cube; equation; solving an equation; ● names the attribute of: simple and composed fractions; percent; arithmetic mean; ● draws: a fragment of a given length and angle of a given degree; indicated in the conditions of a geometric figure using a ruler, triangle, protractor; cross ray, and natural numbers on a cross ray; ● measures and calculates: the length of a fragment; angle degree; perimeter of a triangle and a rectangle; ● solves tasks on: writing the number down as a sum of place-value summands; using four arithmetic operations with natural numbers; getting a square and cube of a natural number; comparing natural numbers; division with remainder; calculating the values of the 	

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numerical and literal expressions, perimeter and area of a rectangle, square, and volume of a rectangle parallelepiped and cube;

- comparing, adding, and subtracting of common fractions with equal nominators; comparing, rounding, adding, multiplying and dividing decimal fractions; turning mixed numbers into a composed fraction; turning a composed fraction into a mixed number or natural number; finding a percent of a number and a number by its percent; finding the arithmetic mean of several numbers, and mean value
- **solves**: equations based on dependencies between the components and the results of arithmetic operations; and text exercises, specifically, on combinatorics;
- **solves plot tasks with data on**: the use of natural resources of homeland; safe driving; finding the perimeters and areas of land plots, classroom floor, the volume of objects in the form of rectangular parallelepiped; family budget calculation, possibility of large purchases; calculations with the calendar, clock, etc.