INDIVIDUAL PROGRAM

SUBJECT: MATHEMATICS   TEACHER: ANDREJ PRAH

SCHOOL YEAR 2015/2016

Pupil:	Grade: 7. Year of schooling:
Assessment of the situation:	The pupil performed homework infrequently last year. In the classroom it was necessary to constantly motivate him for making transcriptions from a board. He has difficulties in understanding instructions. He was rarely active at the time of practice. He was included in the HSK courses, but did not attended them. He has difficulty in mental arithmetic up to number 100 - multiplication, addition, subtraction, division. He reads slowly and has difficulty in understanding instructions. Parents want him to be treated as other students, and to be active.
Assistance proposal	Reaching the standards through motivational activities (interviews, helping classmates, praise, life examples ...). Adjusting the seating, so he would seat at the front. Often enhancing his activity for listening, reading, summarizing, responding and suggesting during classes. Informing his class teacher and advisory service promptly about his work and progress. Encouraging him to communicate in the classroom. Paying more attention to his active participation: opinions, questions, answers, solving exercises, making poster ... Praising hard work on several occasions. Paying more attention to tracking and his understanding of explanation (frequent interviews and checks) during class. Tasks should be related to the environment pupils live in. Frequent use of a calculator with subjects where other standards are more important than a rapid computation, multiplication and division. He will be included in the HSK courses. I always have a set of appropriate tasks ready for him. If necessary, drawing the appropriate worksheets with tasks that enable the gradual acquisition of the minimum standards of knowledge. At least 66% of the minimum standards of knowledge must be acquired to progress to next grade.

MINIMUM STANDARDS OF KNOWLEDGE

1. Names a triangle in respect to the sides and angles in a triangle, draws at least one height.
2. Knows the sum of the interior angles in a triangle and properties of use.
3. Draws a triangle with the data: s s s, k s, k s k and mars it.
4. Calculates the volume and area of a triangle (measuring integer data).
5. Names, marks and draws quadrangles (parallelogram, rhombus) and knows their characteristics.
6. Calculates the volume and area of the quadrangle (parallelogram and rhomb).
7. Draws a mirror image of a point, line and geometric shape to a line or a point.
8. Uses compasses in the designing of the line of symmetry and angle.
9. Finds common divisors and common multiples of two numbers.
10. Compares fractions according to size; abbreviates and extends fractions with a given number, extends a fraction to a common denominator.
11. Writes a fraction as a whole and as a fraction smaller than one, and vice versa.
12. Adds, subtract, multiplies and divides fractions.
13. Writes fractions with a decimal number and vice versa.
14. Follows the order of arithmetic operations in the numerical expression (with a maximum of three arithmetic operations).
15. When calculating with fractions, he uses a calculator.
16. Calculates p% of a.
17. Concludes from quantity to the single unit, and vice versa.
18. Solves equations and inequalities by reflection or diagram.
19. Depicts a point in the coordinate grid and reads their coordinates.
20. Interprets the information shown by the table or diagram.
21. Collects data and shows it in a computer chart.
22. Solves a mathematical problem and a real life problem situation.

MONITORING PUPIL'S PROGRESS IN ACCOMPLISHING MINIMUM (AND POSSIBLY ALSO OTHERS) STANDARDS

STANDARDS OF KNOWLEDGE (These are the minimum standards of knowledge. If it turns out that a pupil can be achieved other standards, fundamental, and perhaps even demanding).	REALIZATION (1, 0, D)		NOTE (specificities at work, acquired grades those results, pupil activity)
NATURAL NUMBERS			
Finds common divisors of two numbers.	1		Worksheet.
Find common multiples of two numbers.	1		Worksheet.
Explores combinatorial situations.	D		Worksheet.
In the set of natural numbers identifies a composite number or a prime number	1		
Divides a given number into its prime factors.	0		
Defines common multiple or divisor of numbers extempore.	D		With guidelines and incentives in simple numbers.
Determine the highest common divisor and the lowest common multiple of numbers extempore.	D		
Recognizes alien numbers	0		
Solves textual task in connection with the multiples and divisors.	D		
Applies rules for divisibility by 4, 8 and 10 on the n $\in$ AND	0		

At the oral evaluation of 17/11/2015 he helped himself by using a multiplication table up to 100. He received mark 2.

Successful at: primes, divisibility rules for 2 and 5, multiples and the lowest common multiple of two numbers up to 10, divisors and the highest common divisor of numbers up to 20.

Not successful at: splitting into prime factors, a demanding text task, identifying common multiples of two numbers by heart, determining the highest common divisor of numbers above the 20.

STANDARDS OF KNOWLEDGE	REALISACIJA (1, 0, D)		NOTE
FRACTIONS			
Compares fractions by size with same denominators	1		
Reduces / expands a fraction with a given number.			
Expands a fraction to a common denominator.			
Writes a fraction as a whole and as a fraction smaller than one, and vice versa.			
Compares the fraction by size with different denominators.			
Writes a fraction with a decimal number and vice versa.			
Defines the concept of a fraction and it depict it on a number line or as part of a shape.			
Determines which fraction is represented by the given graphic display..			
Creates or continues a given sequence of continued fractions.			
Writes a fraction by a decimal number and rounds a decimal off to required number of decimal places.			
Writes non- decimal fractions with periodic decimal notation..			

STANDARDS OF KNOWLEDGE	REALISATION (1, 0, D)		NOTE
ARITHMETIC OPERATIONS WITH FRACTIONS			
Sums fractions.			
Subtracts fractions.			
Multiplies fractions.			
Divides fractions.			
Writes fraction with a decimal number and vice versa			
In numerical expression follows the order of arithmetic operations (with a maximum of three arithmetic operations).			
When calculating with fractions uses a calculator			
Writes the quotient of natural numbers a fraction of a: b = a / b...			
Expresses a remainder of division of two natural numbers by a fraction.			
Determines a reverse fraction to a given fraction.			
Solves textual tasks			
Concludes from unit to the whole vice versa.			
Multiplies and divides fractions with exponent 10 n.			
Uses computational laws for calculating with fractions			
Used computational laws for skilful calculation.			
Calculates the value of the expression with fractions using a pocket calculator			
Convert a fraction into a decimal number using a pocket calculator.			
Calculates the value of a numeric expression, where fractions also appear			

Calculates the value of an expression that contains the letter code of the selected tag value.			
Calculates the value of algebraic expressions with several variables for given values of the variables.			
Observes the sample and determines the rule.			
Reads text, forms an equation and solves it.			
Solves equations in a form: a ± x = b, x ± a = b, and x = b x a = b x a = b, a: x = b, (a 0, x 0, a, b, Q +).			
Solves equations (with a table, a diagram and a reflection).			
Solves non equation q x r (x is a natural number, q and r are rational numbers).			
Solves indirect textual tasks.			
Calculates with algebraic expressions (for example: a + a = 2a). Read with understanding (independently formulates questions, discusses necessary and sufficient data in the task, displays main arguments etc.).			

STANDARDS OF KNOWLEDGE	REALISATION (1, 0, D)		NOTE
TRANSFORMATIONS			
Draws a mirror image of a point, a line and a shape to a line			
Draws a mirror image of a point, a line and a shape to a point.			
Applies a compass when planning of the line of symmetry and angle.			
Knows the transformations (mirroring, shift, rotation) and their properties.			
Characterises mirroring and writes it down symbolically.			
Acquires the notion of symmetry of the line and bisector, and solves construction assignments.			
It uses different strategies in drawing angles using compass and ruler.			
Identifies the angle with a pair of parallel arms (alternating angles) and determines the relationship between their sizes.			
Solves a task of pairs of angles.			
Establishes patterns by rotation and mirroring.			
Explores and independently formulates patterns.			
Observes and recognizes the rule in the pattern and continues the pattern.			

STANDARDS OF KNOWLEDGE	REALIZACIJA (1, 0, D)		NOTE
TRIANGLE			
Names a triangle according to sides and angles.			
Draws at least one height in a triangle.			
Knows the sum of the interior angles in a triangle and uses the feature.			
Draws a triangle by data s-s-s and marks it.			
Draws a triangle by data s-k-s and marks it.			
Draws a triangle by data k-s-k and marks it.			
Acquires the term orientation on the line and in the plane.			
Marks the vertices of a given shape in the required orientation.			
Knows the relationship between the lengths of the sides.			
Distinguishes a concept of interior and exterior angle of a triangle.			
Knows and applies the sum of interior and exterior angles of a triangle in the calculation and drawn tasks.			
Knows and applies the necessary and sufficient information for the compliance of the triangles in drawn tasks.			
Knows and uses height in the designing of the triangle.			
Knows and uses the famous the triangle point in drawn tasks.			
Knows and uses focus, the median, the radius of the inscribed and the circumscribed circle of the triangle in the design of triangle.			
Circumscribes and outlines the circle to the triangle.			
Identifies and plans axially symmetrical triangles.			

STANDARDS OF KNOWLEDGE	REALISATION (1, 0, D)	NOTE
PERCENT AQUATION		
When calculating with fractions uses calculator.		
Calculates p % of a.		
Writes p/100 of a as p % of the basis.		
Graphically depicts p % of the whole.		
Reads a share in % from the slide.		
Calculates basis, if the share is given in %		
Increases a given amount or reduces it by p%.		
Solves text tasks with the percentages and prior to calculating assesses a result (by using a pocket calculator, but without the direct use of a % key).		
Solves indirect textual tasks.		
Reads with understanding (independently formulate questions, discusses necessary and sufficient data in the task, displays main arguments etc.).		

STANDARDS OF KNOWLEDGE	REALIZACIJA (1, 0, D)		NOTE
QUADRILATERALS			
Names, tags and design quadrangles (parallelogram, rhombus).			
Knows features of quadrilaterals (parallelogram, rhombus).			
Recognizes the trapeze, identifies and describes it by the terms: baseline, arm height, centreline.			
Knows and applies the sum of the interior angles of the quadrilateral with computational tasks.			
Knows features of the quadrilateral and designs it according to the selected data.			
Identifies and design axially symmetrical and centrally symmetric quadrilaterals (isosceles trapezoid, deltoid, parallelogram) and describes their properties.			
Is familiar with the concept of the height in a parallelogram and a trapeze and uses it in designing.			
Draws pictures, diagrams, objects nets and makes object nets.			

STANDARDS OF KNOWLEDGE	REALIsation (1, 0, D)		NOTE
CIRCUMFERENCES AND AREAS			
Calculates circumference and area of a triangle (integer measuring data).			
Calculate the circumference and area of the of quadrilaterals (parallelogram and rhomb).			
Calculates circumference and area of a triangle using the forms and relates it to the conversion of units.			
Calculates circumference and area of a trapezoid and deltoid using the form.			
With the transformation of a geometric shape uses the concept of area equality of objects.			
Observes and recognizes the boundary surfaces on the models of prisms and pyramids and produces nets of geometric shapes.			
Uses a conversion of units in solving mathematical problems and life situations problems.			
Uses the conversion of units in solving geometry problems.			

STANDARDS OF KNOWLEDGE	REALIZA CIJA (1, 0, D)	NOTE
FUNCTION AND DATA PROCESSING		
Depicts a point in a coordinate grid and reads their coordinates.		
Interprets the information shown by the table or diagram.		
Collects data and demonstrate it in a computer chart.		
Shows the interdependence of two variables in a chart and interprets the dependence		
Graphically shows the interdependence of two variables and interprets graphic display.		
Writes a chart and draws a graph according to text.		
Recognizes the dependence of two discrete variables, where the the rise of one variable means the rise / fall in of another.		
Determines the arithmetic mean.		
Understands and uses the arithmetic mean in solving (mathematical) problems.		
Explores combinatorial situations.		
Learns and uses a combinatorial tree.		
Solves combinatorial problem graphically: solves and displays solutions of combinatorial problem with an image, drawing, spreadsheet, combinatorial tree.		
Solves combinatorial problem on a symbolic level (calculation setting).		
Generalises the solution of combinatorial problem (can be done by examples).		
In solving problems chooses and creates a suitable display for the presentation of data.		
Uses appropriate displays and charts for showing life situations (population, change rate of the currency, gross domestic product, population growth etc.).		

Makes a display using a computer spreadsheet.			
Thinks critically about tools for displaying data.			
Develops a critical attitude to the interpretation of the results.			
Elaborates an empirical investigation.			
Resolves open and closed problems, breaks down problem situations and asks research questions.			

References: Annual preparation for teaching mathematics for 7th grade. (2015). OŠ Šmihel. Teacher: Andrej Prah

Novo mesto, 17 September 2015   Teacher: Andrej Prah

RECOMMENDATIONS FOR THE FOLLOWING SCHOOL YEAR: