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Addition and subtraction of 20.

Addition of numbers in units.

Relationships, algebraic models.

Rhythmic strings of objects and numbers.

Two teams - 10 children each. Each child has a number from 0 to 9 on the shirt

Taking into account age and the current level of development in mathematical equations:

The teacher stands in the middle, few meters away of both teams - holding a card with an equation or a cloth or any other item in his raised hand / as soon as the equation is called, such as $5+2,8-5$, etc., the child with the correct answer on his/her shirt runs to get the card first. The older the children, the more difficult the task can be by giving equations with a two-digit number, where two children have to create the correct answer that consist of two numbers.

Two people hold a blanket in the middle of two teams, each participant holding a card with an equation according to age. There is one child on each side of the quilt, they hold a stretched card in their hands, which will be seen by the opponent as soon as the quilt is torn down, the result of the equation on the opponent's card must be called.
a) The participant of the column whose sequence number is the result of an arithmetic operation, both ,$+-\quad$ runs around the given obstacle. The winner is the one who calculates the fastest, runs around the obstacle and returns to the team. For example: "5-3" the answer is 2 , so the second must run.

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b) Teacher shows on the number clock 3:00 and puts on a music track for one minute, everyone does the exercise that is in the place of 3:00 o'clock
c) The teacher just says it is 3:00 o'clock without showing them with the hand, so children guess or know which exercise to be done
d) Children get cards with numbers 1 to 12 , they have to find their place in a circle (teacher makes a point where is the starting point 12:00)
e) Change the number 1:00 till 12 to 13:00 till 24:00 and do the same exercise mentioned above
f) Give children cards 1:00 to $24: 00$ and they have to find their pair e.g. 3;00 with 15:00
g) When children are familiar with minutes: give card with written time, joins in a row (column) by time. The examples here are already 10:30. 11:45 etc.
h) Run one distance, take the time- write your time on a piece of paper so others can see, then when everyone has done it- take your time score in a consecutive row

|  |  |  | well-known exercise for children (children <br> can come up with their own name). The <br> teacher shows an arithmetic operation <br> (complexity by age - both + - and <br> multiplication) students perform an <br> exercise that corresponds to the correct <br> answer. You can immediately see who <br> made a mistake in the calculations - <br> perform a different exercise. |
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promoting physical activities and is the basis for strengthening physical health e.g. Getting around (walking, running, crawling, moving with sports equipment, swimming)
Regular, systematic and varied physical activity is the basis of physical health and healthy lifestyle habits
Movement games and games, sports games with EASIER or changed rules and games for one person with easier changed rules; Dance and rhythmic combinations;
Adventure activities
Basic Self-defense

Judging by analogy with what has been learned before. Creation of objects with certain properties, determination of their number, common, different properties, grouping according to a given feature.

## Numbers

True and false equality.
Odd and even numbers.
Addition and subtraction in the amount of 100.
Multiplication of a single digit by $2,3,4,5$.
Relationships, algebraic

## models

Number strings up to 100 .
Determining an unknown number
Data, probability, measurement.
Information gathering.
Determination of time and measurements.
Summary of measurements in a table.
Creating a bar chart.

## Figures

Figure drawing,
characterization
Creating spatial figures.
Drawing an area in units (squares, squares).
Perimeter calculation.

Children should use the basketball field lines as a figure perimeter to be calculated. They have to draw the square or the rectangle, then they go to the chosen figure and measure it by: frog hops (how

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|  |  |  | many), hopping on one leg, and lying down and measuring how many their own body length does it take. Than write it down and calculate the perimeter. |  |
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| 8/9 <br> years | SPORTS | MATHS | ACTIVITY |  |
|  | Learning a variety of basic movements provides an opportunity to engage in interesting, safe and healthpromoting physical activities and is the basis for strengthening physical health fatigue. <br> Regular, systematic and varied physical activity is the basis of physical health and healthy lifestyle habits Physical activity is a prerequisite for good physical and mental health afety and health for oneself and others are influenced by one's own well-considered decisions, being aware of potential risks and evaluating one's actions, and the readiness | Language of mathematics. <br> - Units of volume and mass. <br> - Use of letters to record equality and inequality. <br> - Modeling with real objects. <br> Mathematics reasoning. <br> - Judging by analogy with what has been learned before, formulating statements based on what has been observed, actions taken or judgments in the head. <br> - Creation of objects with certain properties, their grouping. <br> Numbers. <br> - Numbers up to 1000 , their comparison, addition and subtraction. <br> - Multiplication and division by 2-10 within the multiplication table. <br> - Multiplication of one-digit and two-digit numbers by 100 , multiplication of two-digit and three-digit numbers by 10 ; | Any activity that was mentioned in the activities for the first grade, but with developed and more advanced level of knowledge, understanding and physical ability. <br> In the relay, the team must fill the tank with a certain amount ( ml ) of water. <br> Perimeter calculation for gym, stadium. <br> Throw basketball throws in the basket. The number of successful shots must be divided by 3 ,.. <br> Divide the number of steps taken by 10 m by $2,3,4$, <br> Area calculation + movement. <br> Calculating a volleyball court in steps. <br> Calculation of a volleyball court with jumps with both feet. (frogs) <br> Calculation of a volleyball court with jumps on one leg. <br> Calculating the volleyball court in feet; stature, etc. Finally, the calculations are to be compared and concluded. |  |


| to react appropriately in unexpected and unfamiliar situations | dividing three-digit and fourdigit numbers by 10 ; 100 without balance. <br> - Sequence of actions <br> - Determining the share. <br> Relationships, algebraic models. <br> - Number strings up to 1000 . <br> - Research and formulation of relationships in practical and mathematical contexts Data, probability, measurement. <br> - Planning and performing practical measurements in nature, in the surrounding premises in cooperation, summarizing the obtained data in tables. <br> - Experience in reading volume and mass. <br> - Expressing the amount of money in cents and vice versa. Figures. <br> - Angle in a polygon. Straight, narrow, wide angle. <br> - Concepts of "edge", "face", <br> "vertex" to describe properties. • <br> Creating a plan (twodimensional) for the representation of real objects, taking into account the given / agreed size reduction. <br> - Creation of expressions / formulas for calculating the rectangular perimeter. Drawing different shapes with the same |
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|  |  | perimeter. Draw a rectangle with a given area on the check box page. Volume of a rectangular face in notional units (cubes) |  |  |
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| $\begin{array}{\|l\|} \hline 9 / 10 \\ \text { YEARS } \\ \hline \end{array}$ | Sports | Maths | ACTIVITY |  |
|  | The planned results to be achieved by the student in the basic education standard at the end of the 6th grade (the year of teaching is not indicated). <br> 1.The acquisition of a variety of basic movements provides an opportunity to engage in interesting, safe and healthpromoting physical activities and is the basis for strengthening physical health. Getting around (walking, running, crawling, moving with sports equipment, swimming) <br> 2. Learning a variety of basic movements provides an opportunity to engage in interesting, safe and healthpromoting physical activities and is the basis for strengthening physical health. 3. Regular, systematic and varied physical activity is the basis of physical health and | Language of mathematics. <br> - Symbols noting the angle and its magnitude in degrees; <br> - parallel, perpendicular edges; <br> - units of area (cm2, dm2, m2) and speed (km / h, m / s). <br> - Letter symbols in angular and polygonal representations, for denoting values in formulas -S $=\mathrm{ab} ; \mathrm{s}=\mathrm{v} * \mathrm{t}$, <br> - Various representations (drawing, straight line of numbers, geometric shapes, hundred squares, etc.) to explain or characterize, for example, multiplication by a two-digit number, comparison of parts with different denominators, relationship between quantities that characterize motion. Mathematics reasoning. - Linking the new to what is already known, making generalizations, judging in general, <br> - Development of a mathematical model in a new situation, evaluation of the | Any activity that was mentioned in the activities for OTHER GRADES, but with developed and more advanced level of knowledge, understanding and physical ability. <br> Gymnastics and angle learning. The student invents and demonstrates to others the exercise by creating narrow (wide, right) angles by hand; the next student demonstrates the exercise using the legs, forming wide (narrow, straight) angles; The student demonstrates the exercise using the legs and arms, forming right angles (narrow, wide); <br> Stretching exercises, sitting with narrow legs, then wide legs. <br> Movement + parts. <br> The teacher calls the part, such as $1 / 2$ run, the child must run to the halfway line and back. /The teacher calls $1 / 3$ jumping on one leg, the children have to jump $1 / 3$ of the area on one leg. The teacher callsbackwards, the children have to make the relevant piece of the area when moving backwards. The teacher calls $-2 / 4$ dribbling the ball, the children perform. The teacher calls- $2 / 6$ by leading the ball with the foot, the children perform. (e.t.c.) <br> Play the game "Above the Earth". When a child ascends above the ground, he/she must call himself |  |

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healthy lifestyle habits. 4 Regular, systematic and varied physical activity is the basis of physical health and healthy lifestyle habits. 5.
Physical activity is a prerequisite for good physical and mental health 6. Safety and health for oneself and others are influenced both by one's own well-considered decisions, being aware of potential risks and evaluating one's actions, and the readiness to respond appropriately to unexpected and unfamiliar situations.
obtained results and other solutions.

- Techniques of "judging from the end", "dividing problems into parts".
- Creating an explanatory, structured text ("because", "because
Numbers
- Decimal composition of natural numbers up to 10,000 , record in the form of the sum of classes, deferral on the number line, comparison. Real and fake parts. Delaying parts on a straight line. Comparison of basic parts, comparison of parts with different denominators.
- Addition and subtraction of natural numbers in the amount of 10,000 , approximate value of the sum and difference.

Relationships algebraic models.

- Regularities in number strings.
- Judging (in specific examples) about changing the amount, difference, multiplication, division value by changing one of the members of the activity.
- Verbal description of the relationship between two quantities in a familiar, domestic context (eg shopping).

NUMERATOR. Thus, by playing the game known to everyone, one learns the concept - numerator (above the line), denominator (under the line).

The relationship between the movement of time one goes, one runs, one rides a skateboard or some other vehicle and then compares his/her own results OR every one is running, except one is riding a bicycle, etc.)

Elastic rubber, for example, 4 children wrap rubber around them without interruption and create a circle, square, triangle by order of the teacher (how to determine the size of the area? / Compare)

One person throws balls into the basket, other writes down the results:
a)numbers are written on the ping-pong balls - they are thrown into the basket / bowl, the ones hit in the basket are written down/ counted the summ of written numbers
b) count how many balss were thrown in the basket, how many was not. Calculate persentage of luck, name fractions, draw diagrams or do any other mathematical functions with the results

We have to figure out how to find out the amount of balls that were not thrown in the basket - maybe we already know the amount of the original balls?!

How fast am I? Measure with a measuring tape 5 m , with a stopwatch record the time in seconds that can

Relationship between time, path and speed.

- Formation of equality with the unknown in domestic and mathematical contexts. Data, probability, measurement.
- Reading and creating bar charts (variously organized).
- Angle measurement with conveyor. Area units (cm2, $\mathrm{dm} 2, \mathrm{~m} 2$ ), correlations between them, larger unit expression smaller. Speed units (km / h, m / s). Figures.
- Parallel and perpendicular straight lines. Star, angle, drawing an angle, knowing its magnitude in degrees (up to 180 ${ }^{\circ}$ ). Characterization and drawing of polygon properties. Drawing large figures. Determining the area by dividing the figure into parts until familiar figures are obtained, dividing the figure into parts and combining the parts differently, supplementing the figure to a familiar figure.
- Using the rectangular area formula (without converting units).
Determination and verification of the area of a rectangular area.
run 5 m , then divide by 5 , thus calculating how fast you can run in 1 second, or $\mathrm{m} / \mathrm{sec}$.

Orientation: If there is an orientation sports equipment it can be used for activities to strenghthen any knowledge in mathematics: e.g.

Pupils make groups of two/three people and receive a list with mathematical exercises: the answers of them are seen on the map of the shool jym, building or surrounding area. The team decides what is the correct answer and runs toward it and notes themselves at the check point of that answer, than looks and runs toward the next correct answer. It can be done by one person as well. If there is no proper equipment, than instead of check point can be uses simple cones and colorful pencils- every answer should be written with the correct pencil color.

| $\begin{aligned} & \hline 10 / 11 \\ & \text { years } \end{aligned}$ | SPORTS | MATHS | ACTIVITY |  |
| :---: | :---: | :---: | :---: | :---: |
|  | The planned results to be achieved by the student in the basic education standard at the end of the 6th grade (the year of teaching is not indicated). <br> 1.The acquisition of a variety of basic movements provides an opportunity to engage in interesting, safe and healthpromoting physical activities and is the basis for strengthening physical health. Getting around (walking, running, crawling, moving with sports equipment, swimming) <br> 2. Learning a variety of basic movements provides an opportunity to engage in interesting, safe and healthpromoting physical activities and is the basis for strengthening physical health. 3. Regular, systematic and varied physical activity is the basis of physical health and healthy lifestyle habits. 4. Regular, systematic and varied physical activity is the basis of physical health and healthy lifestyle habits. 5. | Language of mathematics. Symbols for the approximate or rounded value of a number a number as part of another number, mixed numbers, decimals, percent, degree with a natural exponent. <br> Notation of natural numbers in Roman numerals. Letter symbols for size in the formula $\mathrm{C}=6 \mathrm{R}$ (calculation of the length of a circle), the relationship between the values for graphical representation, for recording the properties of parts. <br> Mathematics reasoning. <br> Linking the new to the already known, creating generalizations, reasoning in general to construct new knowledge, create and characterize objects with certain properties. <br> Techniques of 'judging from the end', 'breaking down problems into parts', such as determining the initial quantity in a situation described by parts. Creation of an explanatory, structured text ("because", "because"), creation of a counterexample, full re-reading | DO SPORTS EXCERSISES, for example: the long jump and one must guess what was the result approximately. <br> Before performing the exercise, estimate how far you will jump ... Tens of centimeters are marked on the ground when the child lands, marks the place and then, looking at the distance, draws a conclusion on which side to round and why (visually see why we are rounding down, why up) <br> Use decimals to write down the results of Crosscountry short distances. <br> Exercise to create geometric shapes, a straight line of numbers (line at the beginning of the lesson). <br> - Part of the numbers - for example, $1 / 4$ from the class goes to the long jump pit, $1 / 3$ goes to throw a ball... <br> - Movement - creating parallel lines (in the stadium, the treadmills also run in parallel and the students run in parallel lines when they do not intersect.) <br> Run on the square and look for right angles, perpendiculars. * <br> Warm-up exercises, working in pairs, should include exercises with a certain angle - wide, narrow, stretched, straight. |  |

Physical activity is a prerequisite for good physical and mental health. 6. Safety and health for oneself and others are influenced both by one's own well-considered decisions, being aware of potential risks and evaluating one's actions, and the readiness to respond appropriately to unexpected and unfamiliar situations.
action or statement made. Numbers.
Decimal composition of natural numbers, notation,, deferral on the line of numbers,
comparison. Numerical notation in Roman numerals. Notation of the decimal part in the ordinary part and vice versa (in the simplest cases).
Extension of decimals, comparison, deferral of them on a straight line. Interest, in ordinary and decimal form. Rounding of natural numbers. Divisibility properties of multiplication / division. Calculation of the value of the degree (result does not exceed 300)

Addition and subtraction of parts with different denominators. Division of the main part (denominator does not exceed 6) by an integer, division of an integer by the main part. Addition and subtraction of decimal places. Addition and subtraction of mixed numbers.
Relationships, algebraic models. Regularities in expressions of natural numbers, in strings of fractions.
Judging (in specific examples) the change in the value of one

When using a body, represent Roman numerals or the class / group should represent I; V; IV (4). L (50), M (1000),...

Calculates the lengths of the circles on the basketball court. Determines how many teams can be created for a relay or other game / training by searching for divisors. (eg students in class 24 . The class can be divided into $1 ; 2 ; 3 ; 4 ; 6 ; 8 ; 12$, as these are divisors of the number 24 ).
At the end of the school year, you can compare the decimal numbers (long jump results, throwing the ball), in ascending or descending order.

Equilibrium - standing on one leg, lifting the other up at a right angle, tilting the body down to create a straight line for the body and determining the angle between the leg openings.
Pyramids - Each student makes an angle with parts of their body - the other student tries to recognize the width of the angle.

Do any task for one minute: for example- squats. Count the squats made and then calculate how many seconds does it take to make one squat approx..

Coordinate plane - an orienteering map, where the map is divided into quadrants. To determine the location of a point, you need to determine the square (sector) in which it is located. B4 Relationship $S=\mathrm{v} * \mathrm{t}$; path $=$ time $*$ speed.

As for the cross country, running around the stadium. If we know the distance and time you

quantity by changing another
value in a calculation with parts. Coordinate plane for representation of relationships with real contexts (positive variable values).
Graphical representation of the relationship. Characterization of relationships between directly proportional or inversely proportional quantities in specific examples (concepts not used). Formation of equations with the unknown in a domestic and mathematical context (equations contain all kinds of fractions).
Data, probability, measurement.
Reading and creating pie charts. Characterization of the probability if data on the frequency of events are given. Figures. Stretched, open, full angle. Circle diameter, relationship between radius and diameter. The length of the circle (approximately 6 radii). Determining the area by dividing the figure into parts (2 and more) until familiar figures are obtained, dividing the figure into parts and combining the parts differently, supplementing the figure to a familiar figure.
spent walking / running around the stadium, we can calculate the speed. The faster you run, the shorter your time on the road (reverse proportionality).

Scale! Must be able to read the scale from the map, determine the distance specified on the map (if the map is 1 cm corresponds to 20 m then it is necessary to calculate how many meters are in nature from the object to the object).

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|  |  | Numerical expressions for describing the sizes of geometric shapes. Using the Rectangular Area Formula (with unit conversion). . |  |  |
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| 11/12 years | SPORTS | MATHS | ACTIVITY |  |
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|  | healthy lifestyle habits. 4. <br> Regular, systematic and <br> varied physical activity is the <br> basis of physical health and <br> healthy lifestyle habits. 5. <br> Physical activity is a <br> prerequisite for good <br> physical and mental health. <br> 6. Safety and health for <br> oneself and others are <br> influenced both by one's own <br> well-considered decisions, <br> being aware of potential <br> risks and evaluating one's <br> actions, and the readiness to <br> respond appropriately to <br> unexpected and unfamiliar <br> situations. |
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number line, distance between
rational numbers on the number
line, comparison of rational
numbers.
Relationships, algebraic
models.
Regularities in expressions
and strings of rational
numbers
Judging a rational change in the
value of a numerical expression
by changing a member of the
activity.
Data, probability,
measurement.
Choosing the right way to
display your data. Arithmetic
mean, evaluation of its use.
Figures.
Elements of a three-dimensional
body (edges, faces, vertices) and
properties.

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