



Get pedagogical tools and functionality for teaching and learning.

Get excited about math and gain the skills to inspire your students.

Trainings in functional mathematics have been organized in Finland for more than 10 years.

The courses contain videos, articles, functional math tasks, materials for lessons and assessment materials for the student's skills.

Welcome to the **Let's Learn Maths together** -online training.

This training is for teachers who want to develop their own understanding of mathematics as well their pedagogical skills. In teaching, theoretical knowledge and practice goes hand in hand. The understanding of mathematics is constructed block by block. The aim is to build a solid brick house of maths skills.

The learning outcomes of this course emphasize the interaction in teaching situations as well as the active role of the teacher in supporting students. The concept of interaction is understood broadly, and viewed as interaction between colleagues, between students as well as between an adult and a child or a young person. Ideologically, the focus is always on the student and on the idea of how the teacher can support the student to achieve as much as possible. The aim is to enable each child and young person to reach their full potential.

The course contents will strongly follow the Finnish national curriculums for the ages 5 to 18. The content has been tested in various teacher trainings, in practical teaching work as well as in mathematics therapy. This training gives you a broad understanding of learning difficulties in mathematics and tools for how to overcome them.

The training consists of many different Courses, from which the participant chooses the options most beneficial to their development. The courses include online lectures and teaching, as well as teaching and learning materials. These are videos,

task templates, step-by-step work instructions, printable materials, skills assessment materials and articles.

The best learning outcomes are achieved when the training is completed together with colleagues, so that the course content can be discussed, tested and reflected on among colleagues. The sharing of one's own ideas, experiences and understanding gained on the course is highly encouraged, in order to support the wider development of the individual's educational environment or work setting.

Early Math Skills



The aim is to bring functionality to teaching and to make the apparatus that supports the understanding of concepts and problem solving a familiar part of goal-oriented teaching.

The aim is to provide the teacher with the tools and skills to utilize functional methods in everyday life and mathematical tools to support teaching.

In the training, you also learn to identify and evaluate the nodes of mathematics and acquire the skill for remedial teaching through play.

The education also gives the ability to guide children's parents into the world of math with their child.

The whole consists of four courses:

1. THINKING AND REASONING Developing early mathematical skills (article)

- Building a foundation in number knowledge (article)
- Pre Math Skills (video)
- The content of pre-math skills (video)
- Location and relationship concepts, properties, classification skills, serialization and regularities (video)
- Observation skills and preception (activation tasks)
- Comparing (activation tasks)
- Classifying and regularities (activation tasks)
- Location and relation (activation tasks)
- Early Mathematical Skills Assessment Form

2. NUMERICAL SKILLS

- Developing the knowledge of numbers in early math skills (video)

- Quick reading of numbers (video)
- Naming the number (video)
- Numeral persistence (video)
- Numeral sequence (video)
- Number comparison (video)
- Numeral, number word, digit (video)
- Change in the number (video)
- Splitting numbers (video)
- Measurement (video)
- Early Numeracy Skills (activation tasks)
- Early Mathematical Skills Assessment Form

3.SPATIAL VISUALIZATION, GEOMETRY AND MEASUREMENT . Will be published Feb. 2024

4. UNDERSTANDING TIME. Will be published Feb. 2024



Logical reasoning and thinking skills.

Will be published Apr 2024.

This Module focuses on logical reasoning and thinking skills.

We learn how to support students' thinking, share ideas, justify answers, suggest, reflect on the effectiveness of solution strategies, and collectively solve problem tasks.

1. BASIC KNOWLEDGE OF LOGICAL REASONING AND THINKING SKILLS

- Video Logical reasoning and thinking skills (video)
- Article Logical reasoning and thinking skills (article)
- Article What does thinking mean in school? (article)
- Instruction for tasks (guide)

2. REASONING TASKS

- Winnie the Pooh (activation task)
- Football tournament (activation task)
- Towers (activation task)
- Tower construction by three colours (activation task)
- Sheeps and ducks (activation task)
- Numerical dance (activation task)
- Oil sheikh (activation task)
- Elves in love (activation task)

- Encode with arrows (activation task)

3. LOGICAL PIECES

- Logical reasoning (activation task)

4. LOGICAL REASONING WITH NUMBERS

- Dustbin (activation task)
- Snail (activation task)
- From digits to numbers (activation task)
- Nearest number (activation task)
- Let's find a calculation problem (activation task)
- Combinatorics (activation task)
- Ice cream (activation task)
- How many rows of ducks (activation task)
- How many queues of diamonds (activation task)



Maths content in the number range 0-20. Will be published Apr 2024,

This Course focuses on the understanding of digits and numbers and addition and subtraction.

In the training module we learn different forms of numbers, perceiving numbers, counting numbers, concretizing numbers, learning neighbour numbers, tens pairs, rounding numbers,

concretizing numbers with tools, comparing numbers, number sequences forward and backward. By understanding the number's quality, the student is able to operate many ways of calculation and to choose effective calculation strategies.

In this Course we study addition and subtraction. In this training we learn strategies on counting in different number areas; utilize additions to ten, adding doubles and almost doubles, counting ten over and under, 10 more and 10 less, 9 more and 9 less, addition strategy, concretization of natural numbers, additions and subtractions in different number areas and the use of analogy.

The module includes comprehension surveys for different number areas, which help the teacher to get information about the student's competence.

1. VIDEOS

- Developing the knowledge of numbers
- Visuaperception of small numbers
- Numeral persistence
- Number, number word, number symbol
- Numbers sequence skills
- Understanding and processing the number (according to Fuson)

- Different forms of numbers, splitting and assembling numbers
- Even and odd numbers
- Half and double

2. TEACHING MATERIALS

- What do you know about number 18? (2 pages)
- Activities Ten Frame (12 pages)
- Properties of numbers tasks (12 pages)
- Properties of numbers game (45 cards)
- Addition and subtraction strategies Ten pairs by pearls (29 pages)
- Addition and subtraction strategies Ten pairs of fingers (27 pages)
- Addition and subtraction strategies with ten eggs carton (26 pages)
- Doubles and almost like doubles (39 pages)
- Slitting numbers (12 pages)
- Splitting numbers table (1 page)
- Addition and subtraction using numbers 1-20 game (2 pages)
- The odd and even numbers (4 pages)
- How many? (22 pages)
- Double and half (9 pages)
- Calculation strategies for addition and subtraction (12 pages)

3. ARTICLES

- Article Strategies for mastering addition and subtraction calculations
- Article Developing the knowledge of numbers

4. ASSESSMENTS

- Addition double (test)
- Addition almost like double (test)
- Subtraction double (test)



Maths contence in the number range 0-200 and more.

Will be publised June 2024.

In this Course we will study more about addition and subtraction, multiplication and division.

We learn the concept of multiplication, short multiplication tables, and strategies for teaching multiplication.

In this course we learn the concept of division and understand the difference between division by contents and division by distribution.

We learn to divide a unit of number one at a time and multiply by ten and to divide by ten.

We increase our competency by using concrete calculating tools, drawing as well as a story tool.

The module includes multiplication evaluation forms to help the teacher learn about a student's competence.



Ten Base and decimal numbers

Will be published June 2024.

The Course focuses on the Ten Base.

We learn how to understand the Ten Base and how to use special Ten Base equipment to learn to operate with digital numbers.

With this Ten Base material we get to experience what happens to a number when you multiply it by ten or if you divide it by ten.

We learn to concretize numbers with decimal system tools on a place platform; with a thousand cubes, a hundred plate, a ten-rod, and a one cube.

We search numbers by zooming in on the number line, compare and round numbers. We learn to use decimal tools creatively for additions, subtractions, multiplications, and divisions. T

The Course focuses on decimal numbers and understanding them. We concretize decimal numbers with decimal system equipment and number system, as well as compare and round numbers. This module will deepen the understanding of the concepts of tenth, hundredth and thousandth.

We learn addition, subtraction, multiplication and division by decimals with decimals, what is a half and a double with decimal numbers, what happens to a number when it is multiplied by ten or divided by ten. We learn to combine the decimal number with the fraction numbers, and the percentages.

The module includes the understanding of the mapping of decimal numbers, as well as mapping of addition and subtraction in different number areas. The module includes evaluation to help the teacher learn about students competence.



Measuring.

Will be published August 2024.

This Course studies measuring.

In the course we will focus on units of measurement and unit conversions. Through concrete experience we increase our knowledge

about units of measure. Measurement is studied with non-standardized dimensions and standardized dimensions. It will also be easier to understand the relationships of units of measurements.

We will understand the quantities and measure the length, mass and litre volume and their unit conversions, linking the conversions to the concepts of ten base. In this course we learn to study the area and the cubic volume, adding to them unit conversions and the concepts of one hundred times and one hundredth.

The course contains unit surveys, which provide the teacher with information about the student's competence.



Fraction

Will be published August 2024.

In this Course we study fractions and calculating with fractions.

We learn to understand fractions using set and area models. We compare the fraction and learn the

concepts of numerator and denominator of both extending and reducing.

By using concrete equipment we get an experience of fractions and relate it to an abstract level.

The course includes fractional surveys that provide the teacher with information about the student's competence.



Percentage

Will be published Sep 2024.

This Course studies the teaching and learning of percentage calculation.

Percentage is appended to decimal numbers and fractions.

We learn to understand the relationship between one hundredth and one percent, estimate the value of a percentage using other percentages (half, a quarter) as an aid to practical percentage calculations.

We learn about a ratio and a proportion.

The course includes a percentage mapping that allows the teacher to obtain information about the student's competence.

0	1	2	3	4
0+0	1+0	2+0	3+0	4+0
	0+1	0+2	1+1	2+1
		1+1	0+3	1+3
			2+1	2+2
			3+0	3+1

5	6	7	8	9
1+4	4+2	3+4	0+8	9+0
2+3	3+3	7+0	1+7	2+7
4+1	6+0	1+6	4+4	0+9
0+5	5+1	4+3	2+6	1+8
3+2	2+4	6+1	3+5	7+2
5+0	0+6	5+2	5+3	8+1
	1+5	0+7	8+0	4+5
		2+5	7+1	5+4
			6+2	6+3
				3+6

Assessment and competence tests and surveys.

Will be published Sep 2024.

In mathematics, learning something new is based on old knowledge. If the basic skills are weak, learning something new is impossible. The teacher should therefore know the student's skills in order to be

able to target the learning objectives and contents of mathematics correctly.

This course introduces you to various math skills exams and tests as well as how to do them functionally using games, puzzles, drawing and creative digital tools, for example.

Education emphasizes that it is not sensible to do tests or experiments unless the teaching is directed to problem areas.

The training course introduces the assessment of entry level, during the learning process and acquired competence. In addition, it is explored what self-assessment means, what peer feedback is and how learning discussions and feedback can be used in assessment.

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