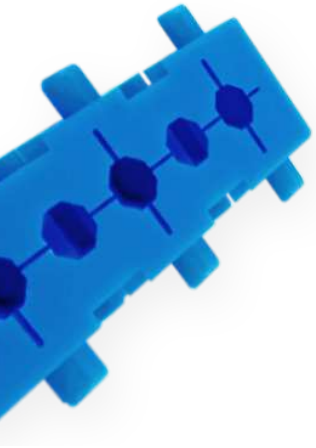
FRANCHISE SYSTEMS

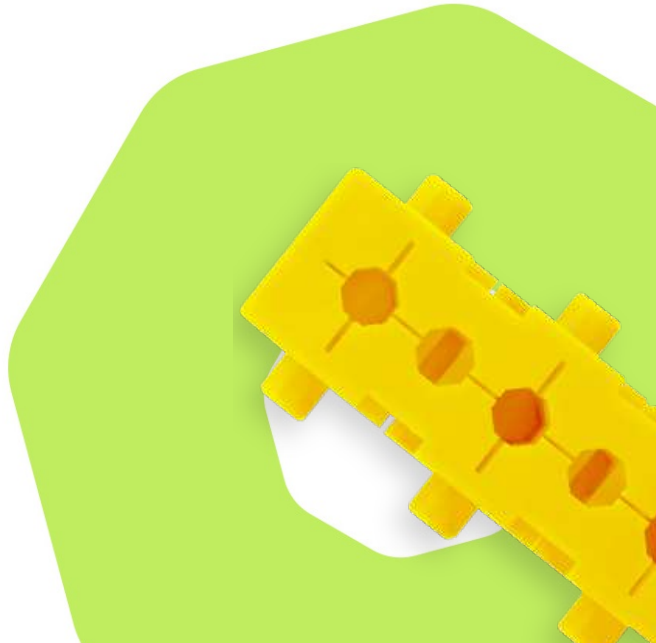
ROBOTHINK

Math Program Proposal

Elizabeth Ray

Program Director





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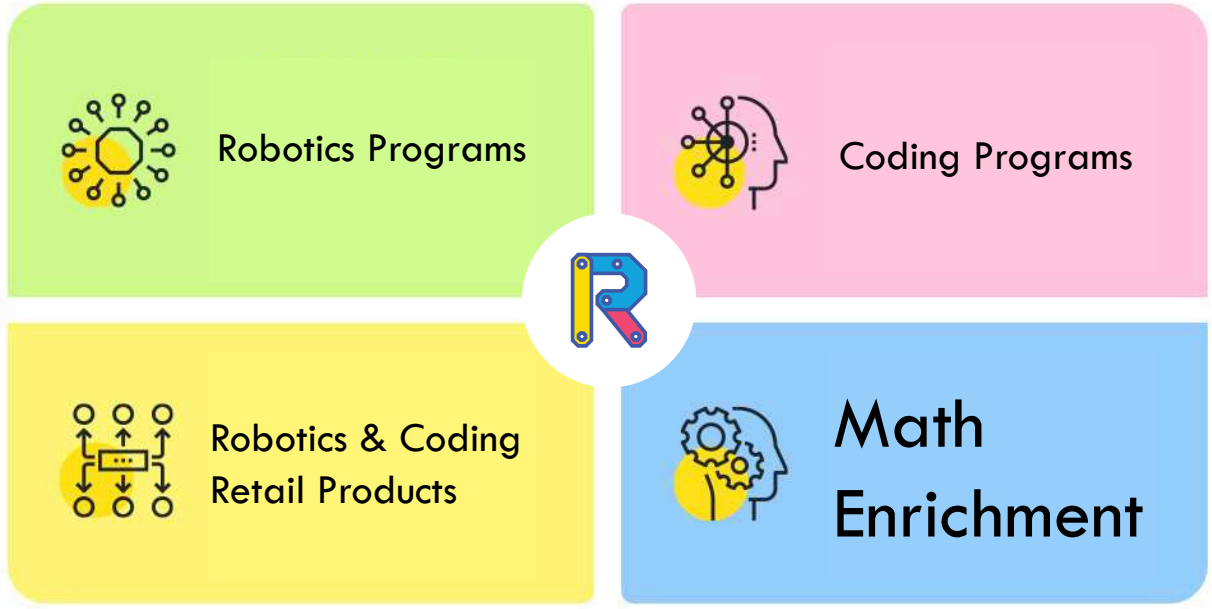
Introduction

With RoboThink's goal of becoming a "one stop shop" for all STEM related educational services, we are developing a digital, AI powered, mathematics learning program.

Since many of our learning centers have the necessary infrastructure to support (instructors, tablets & learning center space).



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Introduction

Education Advisor

Ross Miller, ED, D.
Professor Emeritus of Education. University of West Georgia
Former Vice-President /University of West Georgia

Math Program Advisor

Andrew Yoo
Master of Arts in Mathematics Education
Columbia University

Program Development

Margarita Golubova
Master of Education
Moscow State University
New York Times Best Selling Author

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Curriculum Overview

RoboThink's math curriculum is based on Singapore Math and is aligned to Common Core State Standards.

K

KINDERGARTEN

Counting numbers and objects, understanding addition and subtraction, and introducing them to spatial thinking, 2-D & 3-D shapes.

1

GRADE 1

Solving addition & subtraction word problems using different strategies, telling time, counting money and connect shapes & their attributes.

2

GRADE 2

Multistep word problems, multiplication, measuring & estimating lengths in standard units, drawing 2-D & 3-D shapes, time & money.

3

GRADE 3

Mastering multiplication & division, multi-step word problems using different operations, fractions, solving for area & perimeter, and identify 2-D shapes by sides and angles.

4

GRADE 4

Apply models to multiplication and division problems, equivalent fractions, decimals, measurement conversions, interpreting data with line plots, angles & symmetry.

5

GRADE 5

Derive patterns, adding, subtracting, multiplying and dividing fractions, working with decimals, introduction to coordinate planes, and volume.

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Curriculum Overview

RoboThink's math curriculum is based on Singapore Math and is aligned to Common Core State Standards.

6

GRADE 6

Understanding negative numbers, algebraic expressions, solving one-step equations, inequalities, ratios, unit rates and percentages, extend to working on nets and surface areas.

7

GRADE 7

Solve multi-step real life word problems with rational numbers (any form), linear expressions, ratio and proportion, scale factors, and diving into understanding probability models.

8

GRADE 8

Solving linear equations, simultaneous linear equations, working with slopes, rules on exponents, diving into functions, work on transformation and Pythagorean Theorem.

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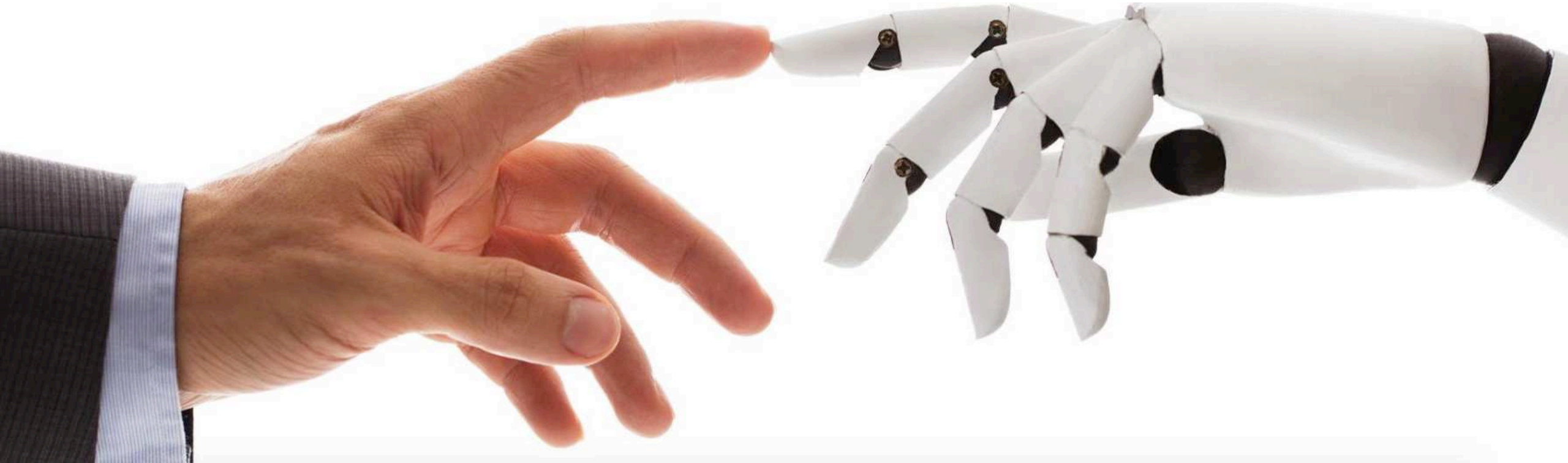
How it works

Our math program leverages human interaction and groundbreaking artificial intelligence to create personalized learning programs. RoboThink's technology tracks how a child arrives at an answer through detailed analysis.



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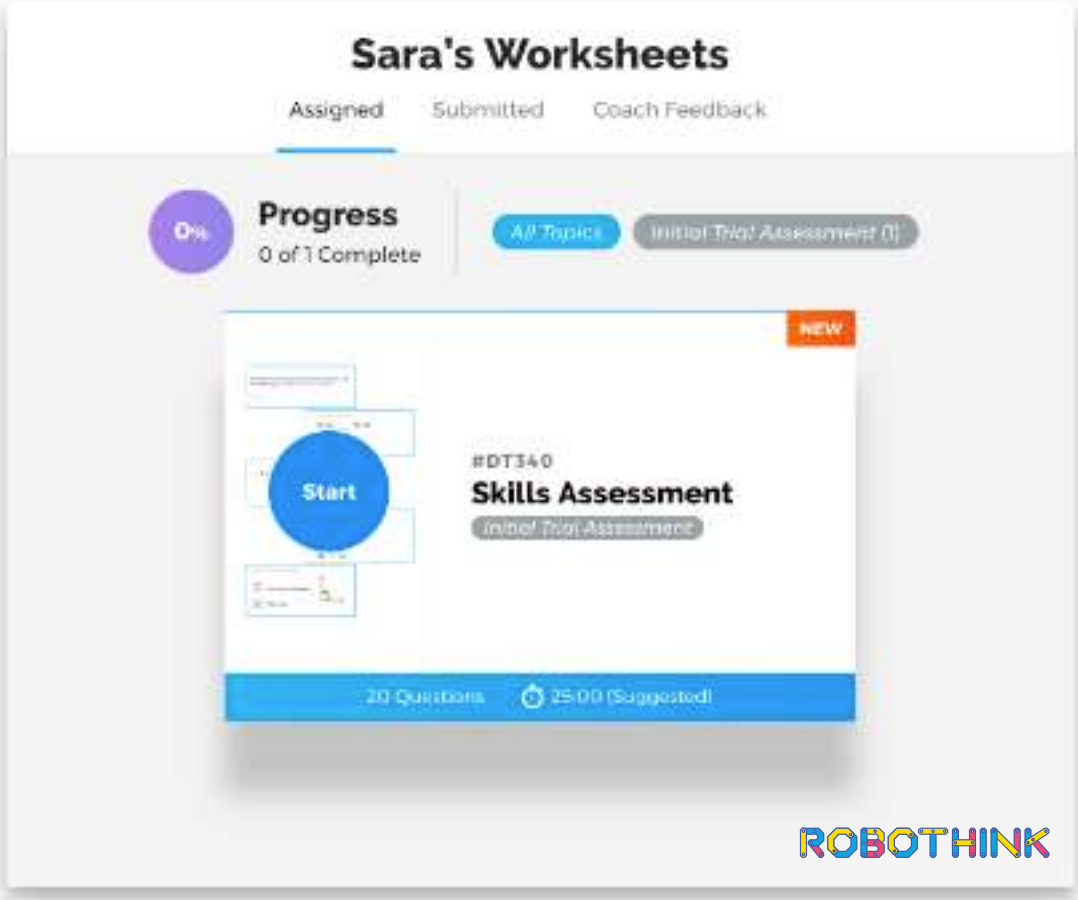
The Learning Cycle

1. Skills Assessment: A simple Skills Assessment identifies their strengths and weaknesses.



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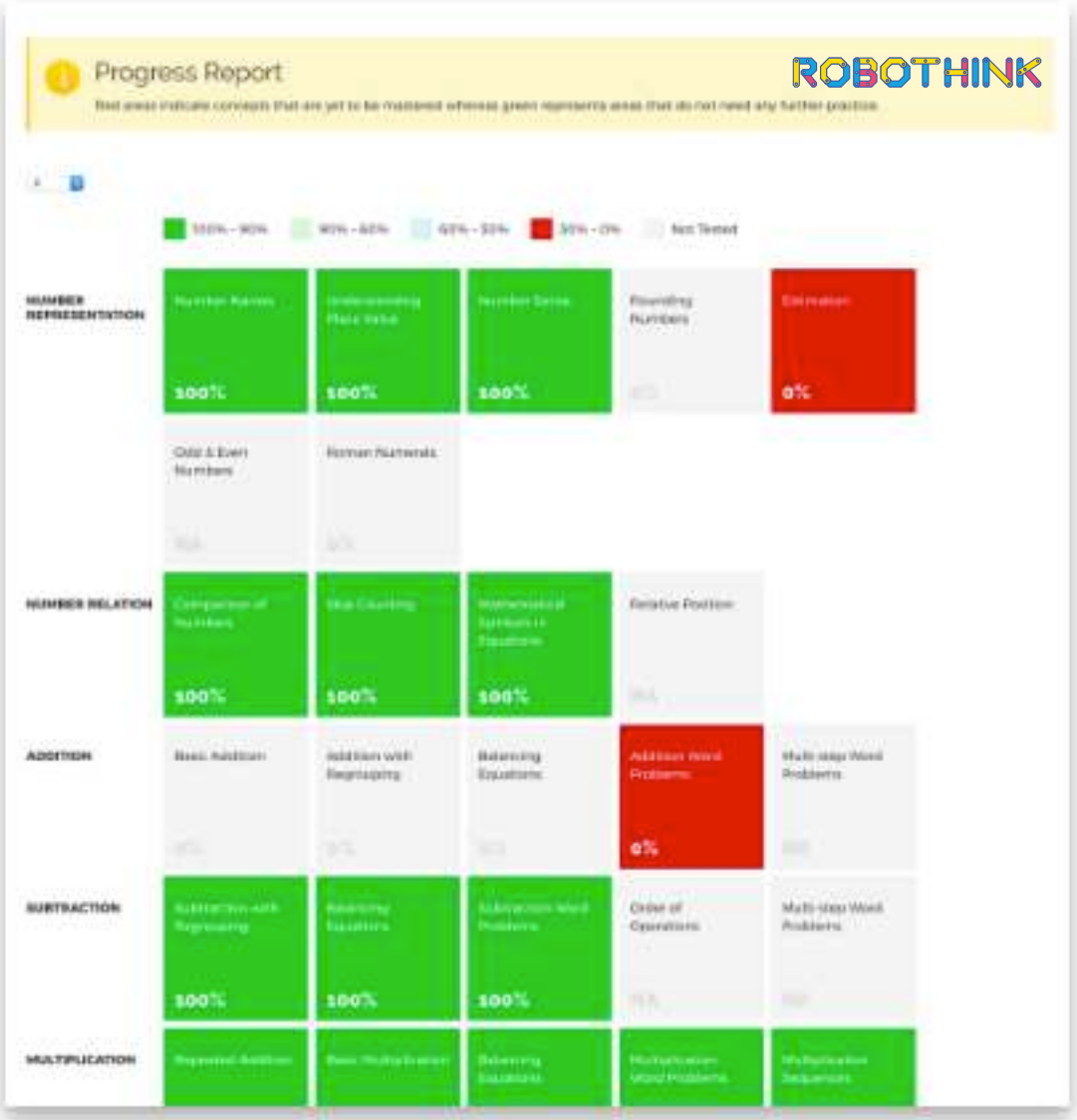
The Learning Cycle

2. Customized Learning Curriculum:

Our system automatically identifies weak points in a child's understanding of mathematics and automatically generates a learning path.



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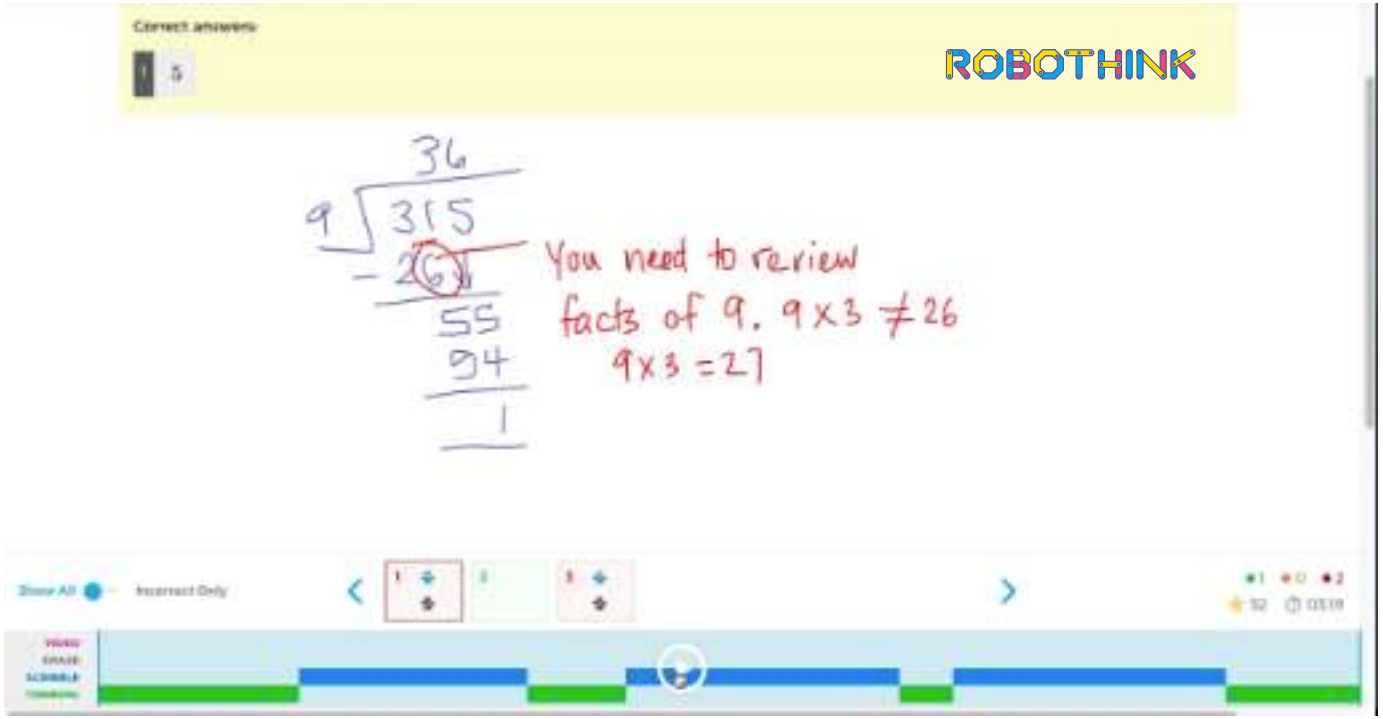
The Learning Cycle

3.AI Powered Analysis:

Here's the coolest bit. The software keeps track of "thinking time" "solving time" and "scribble time". The teacher can identify specific spots where a child pauses and can sense if they are having trouble.

This is a significant departure from the one-way rote learning methods used by Kumon and Eye Level.



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The Learning Cycle

3. RoboThink Parent Insight App:

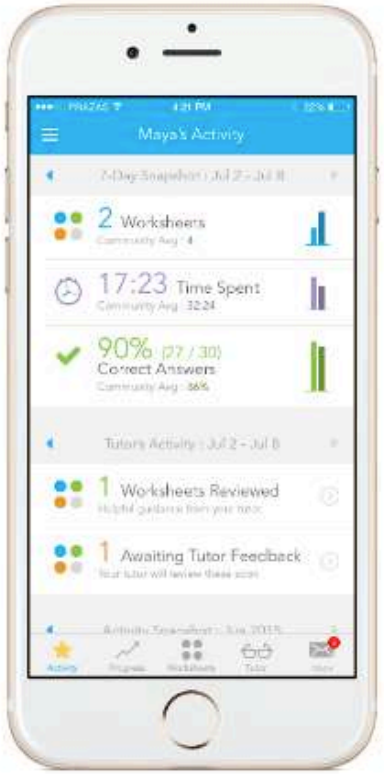
Parents can track performance, engage with the RoboThink tutor and understand how their child is progressing.

Activity

A summary of your child's recent activity, detailed stats, your tutor's comments and more.

Coach

Parents can see comments the tutor left, send them questions, and even schedule next conference.



Progress

Track student progress in each math topic. View details about student's worksheets, time spent, and accuracy.

Worksheets

Parents can examine the math worksheets student completed to see where they struggled or excelled.

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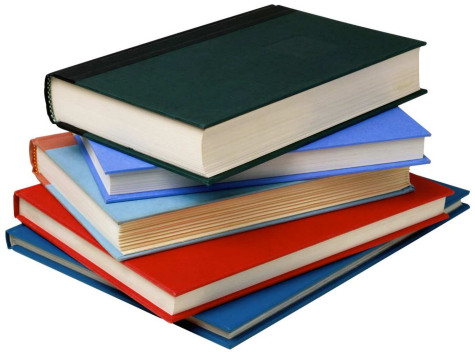
Competitive Advantage

RoboThink Math Program is the first in the franchise industry to offer worksheets through a tablet. This reduces the need for workbook shipments and allows for greater insight into how a child learns and progress through the curriculum.

KUMON®
MATH. READING. SUCCESS.

Eye Level
I am the key.

MATHNASIUM®
The Math Learning Center



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Curriculum Overview

K
KINDERGARTEN

Counting numbers and objects, understanding addition and subtraction, and introducing them to spatial thinking, 2-D & 3-D shapes.

Addition

Addition with Illustrations
Basic Addition
Number Bonds
Decomposing Numbers
Number Line
Properties of Addition
Addition Word Problems

Geometry

Working with Shapes
Properties of Polygons
Correlate 2-D & 3-D Shapes
Object Position

Number Relation

Skip Counting
Comparison of Numbers
Successive Numbers

Number Representation

Counting with Illustrations
Number Line
Number Names
Pictorial Models
Count by Ones & Tens

Measurement & Data

Comparison of Objects
Categorization of Objects

Subtraction

Subtraction with Illustrations
Basic Subtraction
Number Line
Subtraction Word Problems

FRANCHISE SYSTEMS
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1
GRADE 1

Curriculum Overview

Solving addition & subtraction word problems using different strategies, telling time, counting money and connect shapes & their attributes.

Addition

Basic Addition
Properties of Addition
Number Bonds
Fact Families
Comparing Expressions
Balancing Equations
Addition Word Problems

Geometry

Defining vs Non-defining Attributes
Correlate 2-D & 3-D Shapes
Partitions
Turns, Rotation & Direction

Measurement & Data

Telling Time
Calculation of Time
Calendar Activities
Counting Money
Length Measurements
Understanding Patterns
Data Interpretation

Number Relation

Skip Counting
Comparing Numbers
Addition & Subtraction in Words
Mathematical Symbols in Equations
Logical Reasoning
Relative Position

Number Representation

Number Names
Ones, Tens & Hundreds
Subtraction using Place Value
Ordinal Numbers

Subtraction

Basic Subtraction
Fact Families
Equivalent Expression
Balancing Equations
Subtraction Word Problems
Addition & Subtraction Equations

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2
GRADE 2

Curriculum Overview

Addition and Subtraction Word problems, measuring & estimating lengths in standard units, drawing 2-D & 3-D shapes, time & money.

Number Representation

Number Names
Ones, Tens & Hundreds
Subtraction using Place Value
Odd & Even Numbers

Number Relation

Comparing Numbers
Number Line
Skip Counting
Addition & Subtraction in Words
Function Rules

Addition

Adding by Ones & Tens
Repeated Addition
Basic Addition
Addition with Regrouping
Balancing Equations
Addition Word Problems

Subtraction

Basic Subtraction
Subtraction without Regrouping
Subtraction with Regrouping
Balancing Equations
Subtraction Word Problems
Equivalent Equation
Comparing Expressions

Measurement & Data

Telling Time
Comparing Time
Time Word Problems
Counting Money
Conversion of Money
Operations on Money
Length, Weight & Capacity
Comparing Lengths
Data Interpretation

Geometry

Identifying Shapes
Defining vs Non-defining Attributes
Partitions
Symmetry
Turns, Rotation & Direction

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3
GRADE 3

Curriculum Overview

Mastering multiplication & division, multi-step word problems using different operations, fractions, solving for area & perimeter, and identify 2-D shapes by sides and angles.

Addition

Basic Addition
Addition with Regrouping
Balancing Equations
Addition Word Problems
Multi-step Word Problems

Division

Basic Division
Balancing Equations
Division Word Problems
Equivalent Expression
Comparing Expressions
Estimation
Multi-step Word Problems

Fractions

Understanding Fractions
Number Line for Fraction
Equivalent Fractions
Comparing Fractions
Fraction Word Problems
Types of Fractions

Geometry

Building Blocks
Defining vs Non-defining Attributes
Partitions

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3
GRADE 3

Curriculum Overview

Multiplication

Repeated Addition
Basic Multiplication
Balancing Equations
Multiplication Word Problems
Multiplication Sequences
Equivalent Expression
Comparing Expressions
Estimation
Applying Multiplication Properties

Measurement & Data

Telling Time
Comparison of Lengths, Weights & Capacities
Area & Perimeter
Data Interpretation
Conversion of Time
Time Calculation
Calendar Activities
Time Word Problems
Counting Money
Conversion of Money
Operations on Money
Measuring Lengths, Weights & Temperature

Number Relation

Comparison of Numbers
Skip Counting
Mathematical Symbols in Equations
Relative Position

Number Representation

Number Names
Understanding Place Value
Number Sense
Rounding Numbers
Estimation
Odd & Even Numbers
Roman Numerals

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4
GRADE 4

Curriculum Overview

Apply models to multiplication and division problems, equivalent fractions, decimals, measurement conversions, interpreting data with line plots, angles & symmetry.

Number Representation

Number Names
Understanding Place Value
Rounding Numbers
Estimation
Roman Numerals

Number Relation

Addition & Subtraction in Words
Comparison of Numbers
Number Sequence
Odd and Even Numbers
Logical Reasoning Word Problems

Addition

Basic Addition
Addition with Regrouping
Balancing Equations
Multi-step Word Problems

Subtraction

Basic Subtraction
Balancing Equations
Multi-step Word Problems

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4
GRADE 4

Curriculum Overview

Multiplication

Basic Multiplication
Properties of Multiplication
Order of Operations
Multi-step Word Problems

Division

Basic Division
Decimal Division
Prime & Composite Numbers
Balancing Equations
Long Division
Rules of Divisibility
Division Word Problems
Comparison of Expressions
Order of Operations
Division with Remainder
Multi-step Word Problems

Decimal

Number Line for Decimals
Decimal Conversion
Comparison of Decimals
Rounding Decimals
Decimal Addition
Decimal Subtraction
Number Sequence
Order of Operations

Factors & Multiples

Common Factors & HCF
Common Multiples & LCM
Factors & Multiples Word Problems

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4
GRADE 4

Curriculum Overview

Fractions

Decomposing Fractions
Fraction Multiplication
Equivalent Fractions
Fractions in Lowest Form
Fraction Conversion
Comparing Fractions
Fraction Addition
Fraction Subtraction
Fraction Word problems
Mixed Fractions

Measurement & Data

Telling Time
Conversion of Metric Units
Conversion of Standard Units
Lengths, Weights & Capacities Word Problems
Area & Perimeter
Angles
Data Interpretation
Conversion of Time
Calculation of Time
Time Word Problems
Age Word Problems
Counting Money
Conversion of Money
Operations on Money
Unitary Methods Word Problems

Geometry

Lines & Angles
2-D Figures
Lines of Symmetry
Understanding Circles

Probability

Probability Outcomes

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5
GRADE 5

Curriculum Overview

Derive patterns, adding, subtracting, multiplying and dividing fractions, working with decimals, introduction to coordinate planes, volume.

Addition & Subtraction

Problem Solving

Decimal

Number Names
Expanded Form for Decimals
Comparison of Decimals
Building & Placement of Decimals
Decimal Addition & Subtraction
Decimal Multiplication
Decimal Division
Order of Operations

Division

Long Division
Balancing Equations
Rules of Divisibility
Division Word Problems

Fractions

Reduction of Fractions
Percentage Conversion
Mixed Number Word Problems
Area Model
Order of Operations
Fraction Conversion
Least Common Denominator
Fraction Addition
Fraction Subtraction
Fraction Multiplication
Fraction Division
Operations on Fractions
Fraction Word Problems

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5
GRADE 5

Curriculum Overview

Factors & Multiples

Common Factors & GCF
Common Multiples & LCM

Multiplication

Basic Multiplication
Multiplication Word Problems

Number Relation

Comparison of Numbers
Numerical Expressions
Number Sequences
Understanding Patterns
Order of Operations
Logical Reasoning Word Problems

Geometry

Types of Angles
Types of Triangles
Area of Polygons
Coordinate Pairs
Circles

Measurement & Data

Metric Units
Standard Units
Measurement Word Problems
Area & Perimeter
Elapsed Time
Percentages
Temperature
Volume of Prisms
Data Interpretation

Number Representation

Number Sense
Understanding Place Value
Estimation
Roman Numerals

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6
GRADE 6

Curriculum Overview

Understanding negative numbers, algebraic expressions, solving one-step equations, inequalities, ratios, unit rates and percentages, extend to working on nets and surface areas.

Addition

Addition of Integers
Number Sequence
Addition of Absolute Values

Algebra

Algebraic Expressions
Dependent & Independent Variables
Algebraic Inequalities
Variables in Equations
Algebraic Addition
Algebraic Subtraction
Algebraic Multiplication
Algebraic Division

Division

Long Division

Decimal

Decimal Addition
Decimal Subtraction
Decimal Multiplication
Decimal Division

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6
GRADE 6

Curriculum Overview

Fractions

Fraction Conversion & Reduction
Fraction Addition
Fraction Subtraction
Fraction Multiplication
Fraction Division
Number Sequence

Factors & Multiples

HCF & LCM

Geometry

Area of Polygons
Angles in a Polygon
3D Shapes & Nets
Measuring Volume
Triangles
Circles

Multiplication

Properties of Multiplication

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Curriculum Overview

6
GRADE 6

Measurement & Data

Percentages
Circle Graphs
Measurement & Data Word Problems
Simple Interest
Speed, Distance & Time

Number Relation

Number Line
Negative Numbers
Comparison of Numbers
Properties of Multiplication
Number Sense
Exponents
Exponent Sequence
Order of Operations

Number Representation

Numerical Expressions
Face Value and Place Value
Prime & Composite Numbers
Estimation
Exponential Notation
Scientific Notation
Absolute Value
Coordinate Plane
Ordered Pairs

Probability

Statistical Questions & Samples
Mean, Median, Mode, Range
Interpreting Data

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6
GRADE 6

Curriculum Overview

Ratio & Proportion

Introduction to Ratios

Equivalent Ratio

Proportional Ratio

Unit Rates

Comparison of Ratios

Coordinate Pairs

Subtraction

Integer & Decimal Subtraction

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7
GRADE 7

Curriculum Overview

Solve multi-step real life word problems with rational numbers (any form), linear expressions, ratio and proportion, scale factors, and diving into understanding probability models.

Ratio & Proportion

Comparing Ratios
Proportional Relationship
Constant of Proportionality
Proportional Relationship using Equations
Proportional Relationship using Graphs
Word Problems on Ratio & Percent
Inverse Variation
Transitive Relationship

Algebra

Linear Expressions
Algebraic Expressions
Properties of Operations for Algebraic Expressions
Algebraic Equations
Algebraic Inequalities

Geometry

Types of Angles
Area & Perimeter of Circles
2D Cross Section of 3D images
Composite Shapes
Scale Factor

Probability

Representative Data
Sample Size & Data
Measures of Center & Variability
Comparison of Data
Probability of Events
Theoretical & Experimental Probability
Probability Models
Compound Events
Tree Diagrams

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7
GRADE 7

Curriculum Overview

Number System

Understanding Rational Numbers
Absolute Value of Rational Numbers
Additive Inverse
Properties of Addition & Subtraction of Rational Numbers
Properties of Multiplication & Division of Rational Numbers
Multiplication of Rational Numbers
Division of Rational Numbers
Operations on Rational Numbers
Rational & Irrational Numbers

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Curriculum Overview

8
GRADE 8

Solving linear equations, simultaneous linear equations, working with slopes, rules on exponents, diving into functions, work on transformation and Pythagorean Theorem.

Geometry

Rotation, Reflection & Translation of Lines
Distance between Points on a Coordinate Grid
Volumes of Cones, Cylinders and Spheres
Transformation of Angles
Transformation of Parallel Lines
Congruent Images
Dilation of 2D Figures
Similar Images
Transversal Lines and Angles
Pythagorean Theorem
Applications of Pythagorean Theorem

Functions

Function Rule, Domain & Range
Functions & Formats
Linear Functions
Linear Models
Characteristics of Graphs

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Curriculum Overview

8
GRADE 8

Algebra

Properties of Exponents
Graphs & Number of Solutions
Algebraic Problems
Powers & Roots
Scientific Notation
Operations on Numbers in Scientific Notation
Slope of a Line
Slope using Similar Triangles
Solutions of Equations
Linear Equations
System of Linear Equations

Number System

Introduction to Irrational Numbers
Square Roots

Probability

Scatter Plots
Data & Line of Best Fit
Linear Models
Two-way Tables & Association between Variables