

# 1st Grade Math Enrichment Class

**Instructor:** Michelle Xu

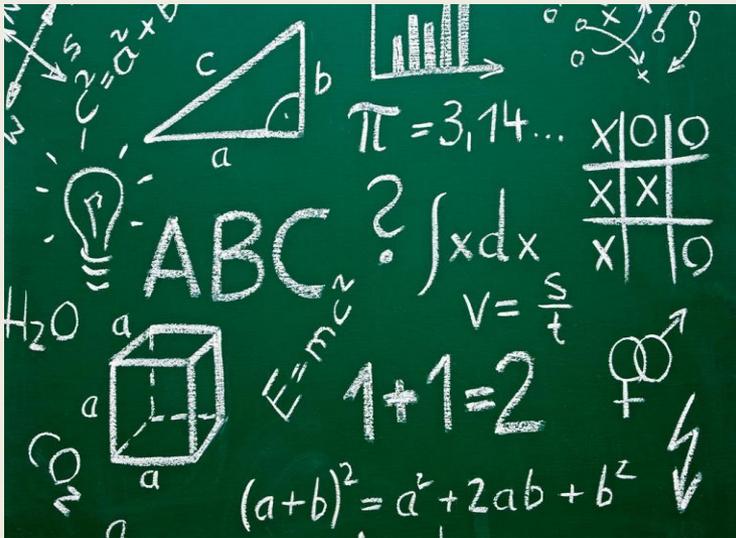
Ms. Xu has been a teacher at Hua Xia Chinese School since 2018. She is passionate to teach children in primary schools particularly in math education. She feels that a special attention should be paid to developing children's love with the math subject.

**Target Students:** rising 1st grade students or age 5 ~ 6 yrs.

**\*\*\*Prerequisite:** must completed kinder grade math.

**Course Description:** This course is designed to aim the students to preview and study according to FBISD TEKS guidelines 1st grade math academic courses.

**Content:** Addition and Subtraction algorithms (1-digits), comparison, 2D/3D geometry, shapes, fractions, word problems, measurements, time, and money conversion. Plus, selected 2<sup>nd</sup> grade topics will be introduced.



# 2nd Grade Math Enrichment Class

**Instructor:** Michelle Xu

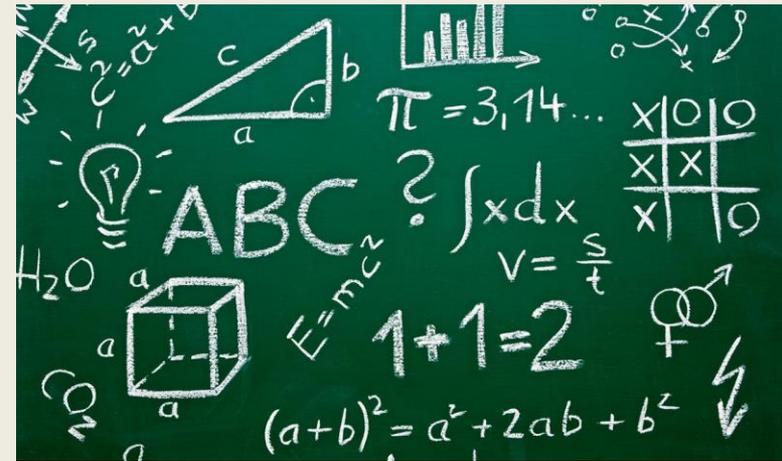
Ms. Xu has been a teacher at Hua Xia Chinese School since 2018. She is passionate to teach children in primary schools particularly in math education. She feels that a special attention should be paid to developing children's love with the math subject.

**Target Students:** rising 2nd grade students or age 7 ~ 8 yrs.

**\*\*\*Prerequisite:** must completed 1st grade math.

**Course Description:** This course is designed to aim the students to preview and study according to FBISD TEKS guidelines 2nd grade math academic courses.

**Content:** Addition and Subtraction algorithms (2-digits to 3-digits), comparison, 2D/3D geometry, shapes, fractions, word problems, measurements, time, and money conversion. Plus, 3<sup>rd</sup> grade basic Multiplication Table (0-10) and Division algorithms (1-digit to 2-digits).



# 2024 秋季华夏数学三年级课程

授课老师:

孔红 老师

招收学生:

三年级的学生

- 用“特定的学习任务”引入基本的数学概念，培养孩子的整合、目测能力。
- 用“具体→图形→抽象”方法引导孩子数学思考、分析能力。
- 用“条形表”快速有效的解决复杂的数学应用问题。

新加坡数学是“视觉思维的数学”，给您的孩子一个聪明的开始。

Singapore Math is “Visual Thinking Math”, give your child a Smart Start.

***2023 Fall Huaxia Math Class - Elementary 3<sup>rd</sup> Grade***

**Teacher: Ms. Hong Kong**

**Target Students: 2<sup>nd</sup> and 3<sup>rd</sup> Grader**

- Use “Specific Learning Tasks” to introduce basic mathematical Concepts and cultivate students’ ability to learn assessment and consolidation.
- Use “Concrete→ Pictorial→ Abstract Approach” to guide and develop children’s logical and critical thinking.
- Use “Modeling Method” to visualize and solve mathematic problems quickly and efficiently.

# Hua Xia Math

## 4<sup>th</sup> Grade

**Instructor:** 谌怡 博士

Ms. Chen graduated from Tianjin University with a doctoral degree in Chemical Engineering in 2009. She had many years of working experience both in academics (Rice University and Texas A&M U) and industries (Schlumberger). In 2008, Ms. Chen joined Huaxia Chinese School, and started her teaching career. She is currently a certified math teacher at Stafford MSD.

### Target Students:

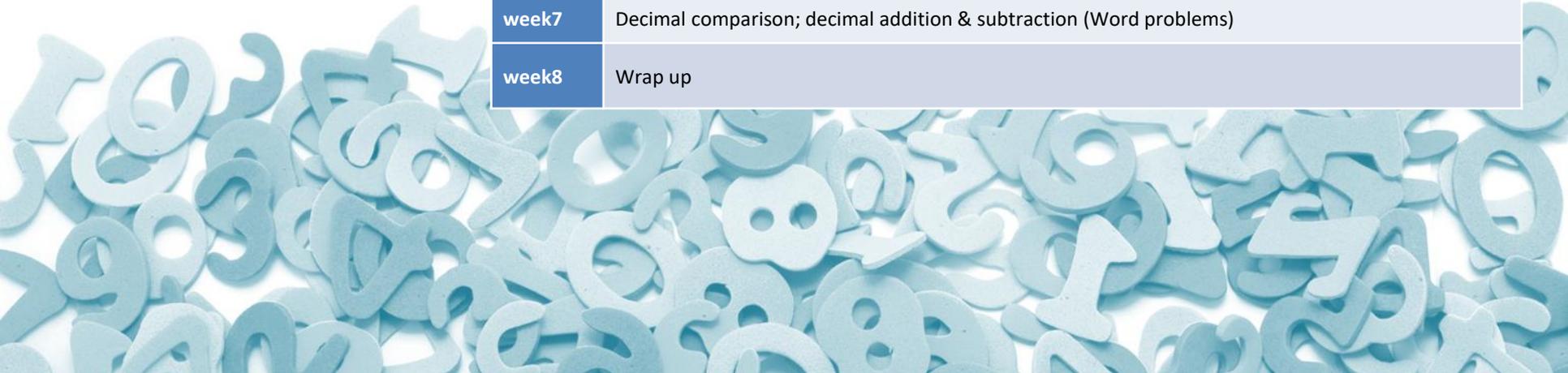
For Students go to Grade 4  
This course aims to **preview** the main TEKS or difficult skills in Grade 4.

### Required Prerequisites:

Familiar with four operation, fractions.

### Course Syllabus

Level 4	Saturday
8 weeks 8 lessons (June 5-July 31)	
week1	Operations and fraction basics checking
week2	Division (divisor is 1 or 2 digits) & Order of operations
week3	Fraction equivalent, simply/reduce
week4	Fraction comparison/ordering
week5	Fraction addition & subtraction
week6	Decimal intro, locate decimal on number line
week7	Decimal comparison; decimal addition & subtraction (Word problems)
week8	Wrap up



# 2023秋季华夏数学五年级课程

授课老师:

孔红 老师

招收学生: 已完成数学四年级  
课程的同学

- 用“特定的学习任务”引入基本的数学概念, 培养孩子整合、自测能力
- 用“具体→图形→抽象”方法引导孩子数学思考、分析能力。
- 用“条形表”快速有效地解决复杂的数学应用问题。

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*2023Fall Hua xia Math Class (Elementary 5<sup>th</sup> Grade)*

Teacher: Ms. Kong Hong

Target Students: 4<sup>th</sup> , 5<sup>th</sup> Grade Elementary students or youngers

- Use “Specific Learning Tasks” to introduce basic mathematical Concepts and cultivate students’ ability to learn assessment and consolidation.
- Use “Concrete→ Pictorial→ Abstract Approach” to guide and develop children’s logical and critical thinking.
- Use “Modeling Method” to visualize and solve mathematic problems quickly and efficiently.

# Hua Xia Math

## 5<sup>th</sup> Grade/Per CBE

**Instructor:** 郝久宽 博士

Jiukuan Hao MD PhD.

He received MD degree from China Medical University, and PhD degree in Pharmaceutical Science from Texas Tech University. As a faculty member at University, he has many years teaching experience at undergraduate and graduate levels. He joined Hua Xia Chinese School in 2021.

### ***Purpose of the Credit by exam (CBE):***

The purpose of this course is for 5th graders to skip 6th grade math.

***Target students:*** 5th grade students who will take CBE 6th grade math

***Required Prerequisites:*** 5th grade math

### ***Course Syllabus***

Course Syllabus: This course will focus on 6th grade math based on TEKS. The content includes: Classifying rational numbers; Absolute value and operations of integers; Operations of fractions, decimals, percentage and their conversions; Prime factorizations; Ratio, rate, proportions; Powers; Simple one-variable equations and inequalities; Relationships in two variables; Simple geometry including angles, triangles and quadrilaterals; Areas and volumes; Displaying, analyzing, and summarizing data; Knowledgeable consumer and investor.



# NUMBER SENSE

**Instructor:** 于成飞博士

Dr. Yu received her B.S in chemical engineering from Tianjin University and PhD in Chemical Engineering from University of Houston. She currently works as a senior quality engineer。

## Course Syllabus

Number Sense is geared toward students in grades 4-5, and focuses on improving the speed and accuracy of their calculations. The Number Sense test is a 10 minute, 80-question mental math test covering all basic math concepts and operations: addition, subtraction, multiplication, division, square, square root, fraction, decimal, percentage, probability, geometry, number theory, Roman numerical, base conversion, sequence, and estimation. In addition, shortcuts need to be developed and practiced in order to compete and finish the test.

## Prerequisites

Students should already be familiar with basic four operations: addition, subtraction, multiplication and division, and the students should know about fractions and decimals.

## Course Descriptions & learning objectives:

After taking Number Sense, students will have a solid foundation of fundamental mathematical techniques and its various shortcuts. This class is very helpful for those wishing to do competition math in the future, or for those wishing to build a stronger mathematical foundation for school.



# Pre Algebra

**Instructor:** 杨柳 老师

## Description

This course formally introduces students to the language of algebra. It teaches students how to translate word phrases and sentences into mathematical Expressions, Equations, and Inequalities using Variables and how to solve Simple Linear Equations and Inequalities.

## Objectives:

After completion of this course, students should be able to:

- 1 understand and work with variables and variables expressions
- 2 solve equations and inequalities with one variable
- 3 understand linear functions and their graphs and use them to solve problems.
- 4 Be ready to continue with Algebra. CBE and Geometry.

## Contents

- Absolute Value and Operations with Positive and Negative Integers
- Factors and Fractions
- Rational Numbers
- Ratio, Proportion, and Percent
- Functions and Graphing
- Simple Equations and Inequalities
- Real Numbers and Right Triangles
- Two-Dimensional Figures
- Three-Dimensional Figures

# Algebra I

Instructor: 俞新天 老师

Students: 6<sup>th</sup>-8<sup>th</sup> grade

Pre-requisites: Pre-Algebra

Prepare for: Geometry, Algebra II, and SAT Math

## 上半册(1<sup>st</sup> half)

- Solving Linear Equations
- Functions, Inverse Functions, Relations, and Patterns
- Analyzing linear Equations(Slope-Intercept, Point-Slope, Standard Form, Conversion between Forms and different Graph Methods)
- Solving Systems of Linear Equations (Substitution, Elimination and Graphic Comprehension)
- Solving Linear Inequalities

## Course Description:

Algebra I makes up the Heart of Algebra in SAT Math. This course helps students to explore the tools of Algebra. Students learn to comprehend fundamental Algebra Concepts such as Factoring Technique, Completing the Squares, Quadratic Equations, Rational Expressions, and master the ability to use Logical Reasoning and Solving problems using different methods.

## 下半册(2<sup>nd</sup> half)

- Polynomials
- Factoring by Group, Factoring Perfect Squares & Difference of Squares, and Factoring General Quadratic Expression
- Quadratic (Solving Quadratic Equations using Factoring, Complete the Square, Quadratic Formula and Graph) and Exponential Functions
- Radical Expressions and Triangles
- Rational Expressions and Equations

# Geometry

**Instructor:** 郝久宽 博士  
**Nora Qin**

**Students:** 7<sup>th</sup>-9<sup>th</sup> grade

**Pre-requisites:** Algebra I

**Prepare for:** Algebra II, SAT Math

## Course Description

Geometry Concepts make up a significant portion of SAT Math. This course helps students to recognize and work with geometric concepts. They build on ideas of inductive and deductive reasoning, logic, concepts, and postulates and theorems of Euclidean plane and solid geometry. Students use a software to aid visualizations, spatial reasoning, and geometric modeling to solve problems.

### 上半册(1<sup>st</sup> half)

- Inductive & Deductive Reasoning, Conditionals and Proof
- Angle Relations, Parallel and Perpendicular Lines
- Angle Theorems, Congruent Triangles, SSS, SAS, ASA, AAS and HL
- Relationships in Triangles, Formations of Circumcenter, Incenter, Centroid, and Orthocenter, Triangle Inequality, Hinge Theorem.
- Quadrilaterals, Sum of Interior Angles, Sum of Exterior Angles/
- Proportions and Similarity, Special Segments.

### 下半册(2<sup>nd</sup> half)

- Proportions and Similarity, Special Segments.
- Right Triangles (Pythagorean Triples and Special Right Triangles) and Trigonometry, Law of Sines and Cosines.
- Transformations(Translation, Reflection, Rotation, and Dilation) and Vectors
- Circles, Arcs, Chords, Central and Inscribed Angles, Tangents, Secants, Equations of Circles.
- Areas of Polygons and Circles
- Extending Surface Area & Volume

# Algebra II

**Instructor: Jane Yang  
Nora Qin**

**Students: 9<sup>th</sup> grade & Above**  
**Pre-requisites: Algebra I**

Algebra II is a course designed to continue the development of mathematical skills learned in Algebra I. The course prepares students to use advanced algebraic concepts and skills confidently in mathematics and other related disciplines.

Algebra II is designed as a preparatory course for Pre-Calculus as well as preparation for the math portions of the SAT and ACT exams. The prerequisite of this course is credit in Algebra I and Geometry or concurrently enrolled in Geometry.

Algebra II is a course where the students develop their conceptual knowledge, but also focus on the applications of those learned concepts.

These nonroutine applications challenge the students to independently synthesize, analyze and apply their skills to produce a solution. These higher-level thinking skills are the main component of every lesson and will serve to challenge the student throughout the year.

Jane Yang: She received Electric and Electronic Engineering PhD degree in Beijing .She was a professor and had been taught for 25 years. After she came to United State, she was focused on math. She had taught for 7 years in the United State, she has taught Algebra1,2, Geometry, Pre-Calculus and Calculus .

## Topics Covered

- ✓ Absolute Value Functions, Equations, and Inequalities  
Cubic/Cube Root Functions
- ✓ Systems of Equations and Inequalities Operations of Polynomial and Polynomial Functions
- ✓ Quadratic Relations and Functions Rational Functions
- ✓ Square Root Functions Exponential/Logarithmic Functions
- ✓ Data Analysis

# Pre-Calculus

**Instructor:** 林子平老师

**Students:** 10<sup>th</sup>-12<sup>th</sup> grade

**Pre-requisites:** Algebra II, Geometry

**Prepare for:** Calculus, SAT Subject Test in Mathematics Level 2

## Course Description

Calculus developed by Isaac Newton and others has wide applications in Physics and other natural sciences, Engineering, and Economics. HuaXia Pre-Calculus is aimed to help student prepared for the All-Important Calculus. This course will progressively and systematically teach student some of the advanced concepts in Pre-Calculus and introduce Limits, Derivatives and Antiderivatives, and the Fundamental Theorem of Calculus.

上半册(1<sup>st</sup> half) **Friday/Saturday 06/18/21-08/14/21 4 Hour /week**

- 1 Linear Equations & Inequalities, Compositions of Functions and Piecewise Functions
- 2 Systems of Linear Equations & Inequalities, and Matrices, Linear Programming
- 3 Families of Graphs – Symmetry, Continuity, Critical Points & Extrema and End Behavior
- 4 Remainder and Factor Theorems, Zeros, Lower & Upper Bounds for Polynomial, Rational Functions & Partial Fractions, and Radical Functions & Inequalities
- 5 Unit Circle, Trigonometric and Periodic Functions, Law of Sines (including Ambiguous Case) and Cosines
- 6 Linear and Angular Velocities, Graphs of The Trigonometric and Inverse Functions, and Amplitude & Period & Phase Shift.