Grade 1 Mathematics

The Mathematics Curriculum Framework represents the commitment of the Hinsdale School District to the Common Core State Standards and the ideas of Grant Wiggins and Jay McTighe in their principles of *Understanding by Design.* The Mathematics Curriculum Revision Committee (2015-16) believes that this document provides the necessary framework for teachers to develop mathematical units and lessons based on best practices in curriculum, instruction and assessment.

The Common Core State Standards for Mathematics requires that students develop a conceptual understanding of key concepts, procedural skills and fluency and the ability to use their knowledge to solve real world problems. Teachers are expected to develop lessons that meet these requirements by using a variety of instructional techniques and resources to meet individual student needs.

More information about the Common Core State Standards can be found at:

www.corestandards.org

Grade 1 Mathematics

Standard 1.OA: Operations and Algebraic Thinking
    Represent and solve problems involving addition and subtraction.
    Understand and apply properties of operations and the relationship between addition and
        subtraction.
    Add and subtract within 20.
    Work with addition and subtraction equations.

21st Century Learning Expectations
    Hinsdale students will be able to solve problems.
    Hinsdale students will communicate through various means.

Enduring Understandings
    An equation is a mathematical statement showing equality using an equal sign.
    Addition and subtraction are inverse operations.
    Understanding equations is fundamental to solving problems.

Learning Competencies	Essential Questions
Students will be able to - use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing. - solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20. - apply communitive and associative properties of operations as strategies to add and subtract. - understand subtraction as an unknown-addend problem. - relate counting to addition and subtraction. - add and subtract within 20, demonstrating fluency for addition and subtraction within 10 using a variety of strategies. - explain the meaning of the equal sign. - determine if equations involving addition and subtraction are true or false. - determine the unknown whole number in an addition or subtraction equation relating three whole numbers.	- How can I use the properties of operations to solve addition and subtraction problems? - What is an equation? - What strategies will help me solve word problems?

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Standard 1.NBT: Number and Operations Base Ten
Extend the counting sequence.
Understand place value.
Use place value understanding and properties of operations to add and subtract.

21st Century Learning Expectations
Hinsdale students will be able to solve problems.
Hinsdale students will communicate through various means.

Enduring Understandings
Place value is the meaning of a position of a number.
Properties of operations are commutative and associative.
Numbers can be compared using knowledge of place value.

Learning Competencies	Essential Questions
Students will be able to • count forwards and backwards up to 120 in written and oral output starting from any number less than 120. • identify any numeral between 0-120. • understand that any two digit number can be grouped in many different ways, but is still the same two digit number. • compare two two-digit numbers using the correct written symbols and terminology. • understand the relationships between rows and columns. • add single and double digit numbers with regrouping and represent the sums in various ways. • understand that when adding two, two-digit numbers that they are adding groups of tens to tens and ones to ones and they may have to compose a group of ten. • use mental math to find 10 more or less of a two digit number and explain. • describe the relationship between three numbers through a number sentence or a fact family.	• Why is place value important when discussing numbers? • How can you use knowledge about tens and ones to add and subtract two digit numbers? • Why do we break numbers apart by tens and ones? • What are ways I can add within 100?

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Standard 1.MD Measurement and Data
- Measure lengths indirectly and by iterating length units.
- Tell and write time.
- Represent and interpret data.

21st Century Learning Expectations
- Hinsdale students will be able to solve problems.
- Hinsdale students will communicate through various means.

Enduring Understandings
- The length of an object is measured by smaller, same size units.
- Data is factual information organized to help analyze or make decisions.
- Time is a unit of measure.

Learning Competencies	Essential Questions
Students will be able to - order three objects by length accurately and compare the lengths of two objects indirectly using a third object. - use a given a unit of measure (nonstandard measuring unit) to determine the length of various objects. - to tell time in hours and half hours using analog and digital clocks and write the correct notation of time. - collect and organize data from a set of data points into graphs, tables or charts - answer questions about data using various graphs, tables or charts.	- How do you choose the appropriate tool and unit when measuring? - Why is telling time important? - What is the difference between length of time and time of day? - What are some ways to organize data?

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Standard 1.G: Geometry
Reason with shapes and their attributes.

21st Century Learning Expectations
Hinsdale students will be able to solve problems.
Hinsdale students will communicate through various means.

Enduring Understandings
All shapes can be identified by their specific attributes.
Any shape can be broken down into smaller shapes.
Attributes defining an object involve shape and sides.

Learning Competencies	Essential Questions
Students will be able to • name shapes based on their defining attributes. • explain attributes that define shapes. • draw and build shapes with certain attributes. • make various 2D shapes and 3D shapes using various materials and then compose larger shapes from smaller shapes. • divide circles and rectangles into equal halves and quarters and then name and label the parts using correct terminology.	• Where in the real world can you find shapes? • How can attributes help you recognize and construct shapes? • How would fractional parts of a shape help to solve problems?