BROWNELL TALBOT

Grade 3 Prioritized Math Standards

The prioritized standards listed align with both the NCTM (National Council for Teachers of Mathematics) and the Nebraska State Standards. The NCTM also includes a set of Process Standards for grades preschool through 12 that highlight mathematical processes that students draw on to acquire and use their content knowledge (see the link on the next page).

Number & Operations	
Understand numbers, ways of representing numbers, relationships among numbers, and number systems	Read, write, and demonstrate multiple equivalent representations for numbers up to 100,000 using objects, visual representations, including standard form, word form, expanded form, and expanded notation. Show and identify equivalent fractions using visual representations including pictures, manipulatives, and number lines. Compare and order fractions having the same numerators or denominators using visual representations, comparison symbols, and verbal reasoning.
Understand meanings of operations and how they relate to one another	Use drawings, words, arrays, symbols, repeated addition, equal groups, and number lines to explain the meaning of multiplication and verbally explain it. Use objects, drawings, arrays, words, and symbols to explain the relationship between multiplication and division (e.g., if 3x4 =12 then 12/3=4).
Compute fluently and make reasonable estimates	Fluently multiply and divide within 144. Add and subtract within 1,000 with or without regrouping. Round a whole given number to tens and hundreds using place value understanding and visual representation.
Algebra	
Understand patterns, relations, & functions	Describe, extend, and make generalizations about geometric and numeric patterns.
Represent and analyze mathematical situations and structures using algebraic symbols	Represent the idea of a variable as an unknown quantity using a letter or a symbol.
Use mathematical models to represent and understand quantitative relationships	Solve real-life problems involving two step equations comprised of whole numbers using the four operations and representations such as graphs, tables, and equations.

Geometry	
Analyze characteristics and properties of two and three dimensional geometric shapes and develop mathematical arguments about geometric relationships	Name, identify, and explain 3-D shapes and their attributes.
Measurement	
Understand measurable attributes of objects and the units, systems, and processes of measurement	Identify and write correct time to the minute using an analog clock. Develop understanding of appropriate standard units and tools to measure length, capacity, area, volume, and mass.
Apply appropriate techniques, tools, and formulas to determine measurements	Count back change from $10.00. Solve real-life problems involving addition and subtraction of time intervals in minutes. Find the perimeter of polygons given the side lengths, and find an unknown side length.
Data Analysis & Probability	
Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them	Create scaled line graphs/line plots and scaled bar graphs to represent a data set – including data collected through observations, surveys, and experiments – with several categories.

NCTM Process Standards: brownell.edu/nctm