

Vertical Alignment Document

Mathematics

Third, Fourth, Fifth



MATHEMATICS CHAPTER 111 TEKS 3-5 INTRODUCTION

Third Grade 111.15	Fourth Grade 111.16	Fifth Grade 111.17
<p>(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 3 are multiplying and dividing whole numbers, connecting fraction symbols to fractional quantities, and standardizing language and procedures in geometry and measurement.</p>	<p>(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 4 are comparing and ordering fractions and decimals, applying multiplication and division, and developing ideas related to congruence and symmetry.</p>	<p>(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 5 are comparing and contrasting lengths, areas, and volumes of two- or three- dimensional geometric figures; representing and interpreting data in graphs, charts, and tables; and applying whole number operations in a variety of contexts.</p>
<p>(2) Throughout mathematics in Grades 3-5, students build a foundation of basic understandings in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; measurement; and probability and statistics. Students use algorithms for addition, subtraction, multiplication, and division as generalizations connected to concrete experiences; and they concretely develop basic concepts of fractions and decimals. Students use appropriate language and organizational structures such as tables and charts to represent and communicate relationships, make predictions, and solve problems. Students select and use formal language to describe their reasoning as they identify, compare, and classify two- or three-dimensional geometric figures; and they use numbers, standard units, and measurement tools to describe and compare objects, make estimates, and solve application problems. Students organize data, choose an appropriate method to display the data, and interpret the data to make decisions and predictions and solve problems.</p>		
<p>(3) Throughout mathematics in Grades 3-5, students develop numerical fluency with conceptual understanding and computational accuracy. Students in Grades 3-5 use knowledge of the base-ten place value system to compose and decompose numbers in order to solve problems requiring precision, estimation, and reasonableness. By the end of Grade 5, students know basic addition, subtraction, multiplication, and division facts and are using them to work flexibly, efficiently and accurately with numbers during addition, subtraction, multiplication, and division computation.</p>		
<p>(4) Problem solving, language and communication, connections within and outside mathematics, and formal and informal reasoning underlie all content areas in mathematics. Throughout mathematics in Grades 3-5 students use these processes together with technology and other mathematical tools such as manipulative materials to develop conceptual understanding and solve meaningful problems as they do mathematics.</p>		

MATHEMATICS VERTICAL ALIGNMENT DOCUMENT
THIRD, FOURTH, FIFTH

THIRD GRADE		FOURTH GRADE		FIFTH GRADE	
3.1	<i>Number, operation, and quantitative reasoning. The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money.</i>	4.1	<i>Number, operation, and quantitative reasoning. The student uses place value to represent whole numbers and decimals.</i>	5.1	<i>Number, operation, and quantitative reasoning. The student uses place value to represent whole numbers and decimals.</i>
3.1A	<p>Use place value to read, write (in symbols and words), and describe the value of whole numbers through 999,999.</p> <p>Use, Read, Write, Describe</p> <p>PLACE VALUE WITH WHOLE NUMBERS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> • whole numbers (0 – 999,999) with symbols and words • number system using ten digits (symbols used to represent numbers) 0-9 • place value system is based on multiples of ten <ul style="list-style-type: none"> • ex: zero tens, one ten, ten tens, hundred tens • ex: 284,067 = 2 one hundred thousands, 8 ten thousands, 4 thousands, 0 hundreds, 6 tens, 7 ones • number in standard form that has been separated into groups of three digits using commas with each of these groups called a period <ul style="list-style-type: none"> • ex: 376,842 thousands period: 376 units period: 842 	4.1A	<p>Use place value to read, write, compare, and order whole numbers through 999,999,999.</p> <p>Use, Read, Write, Compare, Order</p> <p>PLACE VALUE WITH WHOLE NUMBERS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> • whole numbers (0 – 999,999,999) with symbols and words • number system using ten digits (symbols used to represent numbers) 0-9 • place value system based on multiples of ten <ul style="list-style-type: none"> • ex: 798,531,465 = 7 hundred millions, 9 ten millions, 8 millions, 5 hundred thousands, 3 ten thousands, 1 thousands, 4 hundreds, 6 tens, 5 ones • number in standard form that has been separated into groups of three digits using commas with each of these groups called a period <ul style="list-style-type: none"> • ex: 947,376,842 millions period: 947 thousands period: 376 units period: 842 	5.1A	<p>Use place value to read, write, compare, and order whole numbers through the 999,999,999,999.</p> <p>Use, Read, Write, Compare, Order</p> <p>PLACE VALUE WITH WHOLE NUMBERS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> • whole numbers (0 – 999,999,999,999) with symbols and words • number system using ten digits (symbols used to represent numbers) 0-9 • place value system based on multiples of ten <ul style="list-style-type: none"> • ex: 790,410,032,465 = 7 hundred billions, 9 ten billions, 0 billions, 4 one hundred millions, 1 ten millions, 0 millions, 0 hundred thousands, 3 ten thousands, 2 thousands, 4 hundreds, 6 tens, 5 ones • number in standard form that has been separated into groups of three digits using commas with each of these groups called a period <ul style="list-style-type: none"> • ex: 518,947,376,842 billions period: 518 millions period: 947 thousands period: 376 units period: 842

TEXT— **TEKS: Bolded Black and Italics Knowledge Statement (TEA); Bolded Black – Student Expectations (TEA); Blue – Supporting Information Clarifications from CSCOPE**

CELL SHADING — Beige: Student Expectations that are tested at current and/or other grade levels

MATHEMATICS VERTICAL ALIGNMENT DOCUMENT
THIRD, FOURTH, FIFTH

THIRD GRADE		FOURTH GRADE		FIFTH GRADE	
	<ul style="list-style-type: none"> standard form to written notation and written to standard form <ul style="list-style-type: none"> ex: 376,842 is read and written in words as three hundred seventy-six thousand, eight hundred forty-two standard form to expanded notation <ul style="list-style-type: none"> ex: $376,842 = 300,000 + 70,000 + 6,000 + 800 + 40 + 2$ every digit has a place and a specific value <ul style="list-style-type: none"> ex: 376,842 - the digit 6 is in the one thousands place, representing 6 thousands and the value of 6,000 difference between a digit and a number <ul style="list-style-type: none"> ex: 345 is a number with digit 4 in the tens place <p>Note:</p> <ul style="list-style-type: none"> 2nd grade uses place value to read, write and describe the value of whole numbers to 999. 3rd grade introduces how to convert between a number and expanded notation. 3rd grade introduces the thousands period. 		<ul style="list-style-type: none"> standard form to written notation and written notation to standard form <ul style="list-style-type: none"> ex: 798,531,465 is read and written in words as seven hundred ninety-eight million, five hundred thirty-one thousand, four hundred sixty-five standard form to expanded notation <ul style="list-style-type: none"> ex: $798,531,465 = 700,000,000 + 90,000,000 + 8,000,000 + 500,000 + 30,000 + 1,000 + 400 + 60 + 5$ every digit has a place and a specific value <ul style="list-style-type: none"> ex: 798,531,465 - the digit 8 is in the one millions place, representing 8 million and the value of 8,000,000 symbols and words for “greater than” (>), “less than” (<), and “equal to” (=) <p>Note:</p> <ul style="list-style-type: none"> 4th grade introduces the millions period. 		<ul style="list-style-type: none"> standard form to written notation and written notation to standard form <ul style="list-style-type: none"> ex: 52,798,531,465 is read and written in words as fifty-two billion, seven hundred ninety-eight million, five hundred thirty-one thousand, four hundred sixty-five standard form to expanded notation <ul style="list-style-type: none"> ex: $790,410,032,465 = 700,000,000,000 + 90,000,000,000 + 400,000,000 + 30,000 + 2,000 + 400 + 60 + 5$ every digit has a place and a specific value <ul style="list-style-type: none"> ex: 97,465,831,465 - the digit 7 is in the one billions place, representing 7 billion and the value of 7,000,000,000 symbols and words for “greater than” (>), “less than” (<), and “equal to” (=) <p>Note:</p> <ul style="list-style-type: none"> 5th grade introduces the billions period.
3.1B	<p>Use place value to compare and order whole numbers through 9,999.</p> <p>Use, Compare, Order</p> <p>PLACE VALUE WITH WHOLE NUMBERS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> whole numbers include zero and all of the positive counting numbers (0 – 9,999) 	4.1B	<p>Use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using concrete models.</p> <p>Use, Read, Write, Compare, Order</p> <p>PLACE VALUE WITH DECIMALS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> decimals involving hundredths 	5.1B	<p>Use place value to read, write, compare, and order decimals through the thousandths place.</p> <p>Use, Read, Write, Compare, Order</p> <p>PLACE VALUE WITH DECIMALS</p> <p>Including, but not limited to:</p> <ul style="list-style-type: none"> decimals involving thousandths

TEXT— **TEKS: Bolded Black and Italics Knowledge Statement (TEA); Bolded Black – Student Expectations (TEA); Blue – Supporting Information Clarifications from CSCOPE**

CELL SHADING — Beige: Student Expectations that are tested at current and/or other grade levels

MATHEMATICS VERTICAL ALIGNMENT DOCUMENT
THIRD, FOURTH, FIFTH

THIRD GRADE		FOURTH GRADE		FIFTH GRADE	
	<ul style="list-style-type: none"> comparison symbols and words <ul style="list-style-type: none"> greater than ($>$), less than ($<$), and equal to ($=$) descending, ascending, least to greatest, etc. place and value <ul style="list-style-type: none"> ex: 31,465 - the digit 4 is in the hundreds place and the value is 400 numbers that have the same digits but are not equal in value (different place values) <ul style="list-style-type: none"> ex: 23 and 32 23 is 2 tens and 3 ones, and 32 is 3 tens and 2 ones $23 < 32$ and $32 > 23$ sequence whole numbers or words associated with these numbers <ul style="list-style-type: none"> ex: list of cities based on population, etc. <p>Note:</p> <ul style="list-style-type: none"> 2nd grade introduces the use of comparative symbols ($<$, $=$, $>$). 		<ul style="list-style-type: none"> money concrete objects pictorial models word “and” indicates a decimal in a number decimal numbers using symbols and words <ul style="list-style-type: none"> ex: 2.78 place and value - the digit 8 is in the hundredths place and the value is .08 or 8 hundredths written and read – two and seventy-eight hundredths comparison symbols and words <ul style="list-style-type: none"> greater than ($>$), less than ($<$), and equal to ($=$) descending, ascending, least to greatest, etc. sequence whole/decimal numbers or words associated with these numbers <ul style="list-style-type: none"> ex: list of heights from least to greatest or greatest to least, etc. <p>Note:</p> <ul style="list-style-type: none"> 4th grade decimals through hundredths. 4th grade uses concrete models to introduce decimals. (3rd grade introduces the decimal point using money only). 		<ul style="list-style-type: none"> word “and” indicates a decimal in a number decimal numbers using symbols and words <ul style="list-style-type: none"> ex: 2.745 place and value - the digit 5 is in the thousandths place and the value is 0.005 or 5 thousandths written and read - two and seven hundred forty-five thousandths comparison symbols and words <ul style="list-style-type: none"> greater than ($>$), less than ($<$), and equal to ($=$) descending, ascending, least to greatest, etc. sequence whole/decimal numbers or words associated with these numbers <ul style="list-style-type: none"> ex: list of running speeds from least to greatest or greatest to least, etc. <p>Note:</p> <ul style="list-style-type: none"> 5th grade decimals through thousandths. 4th grade uses concrete objects and money to introduce decimals.

TEXT— **TEKS: Bolded Black and Italics Knowledge Statement (TEA); Bolded Black – Student Expectations (TEA); Blue – Supporting Information Clarifications from CSCOPE**

CELL SHADING — Beige: Student Expectations that are tested at current and/or other grade levels