

PARENT GUIDE

GRADE TWO MATHEMATICS CURRICULUM

DIOCESE OF CLEVELAND

Below is a list of skills your child will be taught in Grade Two Mathematics.

As parents, you are encouraged to support the work of your child's teacher in helping your child acquire each of these skills.

OPERATIONS AND ALGEBRAIC THINKING	
REPRESENT AND SOLVE PROBLEMS INVOLVING ADDITION AND SUBTRACTION	
	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
ADD AND SUBTRACT WITHIN 20.	
	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
WORK WITH EQUAL GROUPS OF OBJECTS TO GAIN INFORMATION ABOUT MULTIPLICATION.	
	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
NUMBER AND OPERATIONS IN BASE TEN	
UNDERSTAND PLACE VALUE.	
	Understand that the three digits of a three-digit number represent amounts in hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
	a. 100 can be thought of as a bundle of ten tens – called a “hundred.”
	b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
	Count within 1000; skip count by 5s, 10s, and 100s.
	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digit, using $>$, $=$, and $<$ symbols to record the results of comparison.
USE PLACE VALUE UNDERSTANDING AND PROPERTIES OF OPERATIONS TO ADD AND SUBTRACT.	
	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
	Add up to four-digit numbers using strategies based on place value and properties of operations.
	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, and ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
	Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
	Explain why addition and subtraction strategies work, using place value and the properties of operations. [Explanations may be supported by drawings or objects.]
MEASUREMENT AND DATA	
MEASURE AND ESTIMATE LENGTHS IN STANDARD UNITS.	
	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

MEASUREMENT AND DATA CONTINUED	
	Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
	Estimate lengths using units of inches, feet, centimeters, and meters.
	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
RELATE ADDITION AND SUBTRACTION TO LENGTH.	
	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawing of rulers) and equations with a symbol for the unknown number to represent the problem.
	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.
WORK WITH TIME AND MONEY.	
	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.
REPRESENT AND INTERPRET DATA.	
	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take apart, and compare problems using information presented in a bar graph.
GEOMETRY	
REASON WITH SHAPES AND THEIR ATTRIBUTES.	
	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. [Sizes are compared directly or visually, not compared by measuring.]
	Partition a rectangle into rows and columns of same-size and count to find the number of them.
	Partition circles and rectangles into two, three, or four equal shares, describe the shares using words <i>halves</i> , <i>thirds</i> , <i>half of</i> , <i>a third of</i> , etc. Describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.
DOC: Numbers, Number Sense and Operations	
NUMBERS AND NUMBER SYSTEMS	
	Count money and make change using coins and a dollar bill.
	Represent and write the value of money using the ¢ sign and in decimal form when using the \$ sign.
MEANING OF OPERATIONS	
	Mastery of addition and subtraction facts to 20.
COMPUTATION AND ESTIMATION	
	Develop and solve word problems by using various strategies; e.g., recognizing “clue” words.
DOC: Measurement	
MEASUREMENT UNITS	
	Identify and select appropriate units of measure for:
	Length -- centimeters, decimeters, meters, inches, feet or yards;
	Volume – liters, cups, pints, quarts, and gallons;
	Weight-grams, kilograms, ounces or pounds;
	Temperature -- Fahrenheit.
	Describe, compare and order the relationships among standard and non-standard units of measure, such as centimeters and meters; inches, feet and yards; cups, pints and quarts; ounces and pounds, hours, half-hours and quarter-hours.

MEASUREMENT TECHNIQUES AND TOOLS	
	Estimate and measure the length and weight of common objects, using metric, U.S. customary units, and non-standard units accurate to the nearest unit.
	Select and use appropriate measurement tools.
DOC: Data Analysis and Probability	
DATA COLLECTION	
	Read, interpret and make comparisons and predictions from data represented in charts, line plots, picture graphs, bar graphs, and tally charts.
OH: CCSS: Literacy: Reading: Informational Text	
KEY IDEAS AND DETAILS	
	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
CRAFT AND STRUCTURE	
	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
OH: CCSS: Literacy: Writing	
PRODUCTION AND DISTRIBUTION OF WRITING	
	With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.
RESEARCH TO BUILD AND PRESENT KNOWLEDGE	
	Recall information from experiences or gather information from provided sources to answer a question.
OH: CCSS: Literacy: Speaking and Listening	
COMPREHENSION AND COLLABORATION	
	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
	Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
	Ask for clarification and further explanation as needed about the topics and texts under discussion.
PRESENTATION OF KNOWLEDGE AND IDEAS	
	Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

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(Source: [1] National Governors Association Center for Best Practices, Council of Chief State School Officers. 2010. *Common Core State Standards for Mathematics*. Washington, D.C.: National Governors Association Center for Best Practices, Council of Chief State School Officers.[2] Office of Catholic Education. 2007. *Mathematics Curriculum*. Cleveland, Ohio: Office of Catholic Education.)

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