Great Lakes in My World
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Unit: Lakes

Common Core: Math

Activities	Lake Connection	I Am A Camera	Maps of Home	Watershed Orientation	Satisfy Your Curiosity	Eco-Language	Closer Look	Fish Observation	Web of Life	Tangled Web	What's New?	Great Lakes Relay	Invasive Issues	Moving Mercury	Solubility	It Adds Up and Up	Building a Web
	K-8	K-4	3-6	4-8	K-8	4-8	3-6	3-6	K-4	4-8	3-6	4-8	6-8	4-8	6-8	6-8	K-8
Category	**Code**	**Grade**	**Standard**	1	2	3	4	5	6	7	8	9	10	11	12	13	15	14	16	17
Mathematics	M.1.MD.2	1	EXpress the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to conteXts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.								X									
Mathematics	M.4.NF.4	4	Apply and eXtend previous understandings of multiplication to multiply a fraction by a whole number.																X	
Mathematics	M.5.NBT.3	5	Read, write, and compare decimals to thousandths. - Read and write decimals to thousandths using base-ten numerals, number names, and eXpanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). - Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.																X	
Mathematics	M.5.NBT.6	5	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and eXplain the calculation by using equations, rectangular arrays, and/or area models.																X	
Mathematics	M.5.NBT.7	5	Add, subtract, multiply, and divide decimals to hundredths, 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 and eXplain the reasoning used.																X	

Category	Code	Grade	Standard	1	2	3	4	5	6	7	8	9	10	11	12	13	15	14	16	17
Mathematics	M.6.RP.3	6	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. - Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios. - Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed? - Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. - Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.																		X	
Mathematics	M.6.EE.2	6	Write, read, and evaluate expressions in which letters stand for numbers. - Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation “Subtract y from 5” as 5 – y. - Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms. - Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas V = s3 and A = 6 s2 to find the volume and surface area of a cube with sides of length s = 1/2.																		X	

Category	Code	Grade	Standard	1	2	3	4	5	6	7	8	9	10	11	12	13	15	14	16	17
Mathematics	M.7.EE.3	7	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.																		X	

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Unit: Sand Dunes

Common Core: Math

Activities	Dune Inspiration	Making a Mark	Dune Journey	Satisfy Your Curiosity	Sand Study	Moving Sand	Adaptations and Observations	Indoor Dunes	Adaptation Stories	Succession Circles	Dune Decisions	Dune Mining Debate	Life in the Dunes	Living Dune	Dune Reflection
	K-8	4-8	3-6	K-8	3-6	4-8	4-8	4-8	3-6	6-8	4-8	6-8	K-3	4-8	4-8
	1	2	3	4	5	6	8	7	9	10	11	12	13	14	15

Category	Code	Grade	Standard															
Mathematics	M.3.MD.1	3	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.							X								

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Unit: Wetlands

Common Core: Math

Activities	Wetland Alphabet	Wetland Song	Mud Painting	Groundwater Exploration	Value of Wetlands	Wetland Observation	Bugs In The Mud	Critical Critters	Living Life Cycles	Name that Plant	Working Wetlands	Mini Wetland	Teaching About Wetlands
	K-4	K-2	4-8	4-8	4-8	K-8	K-3	4-8	3-6	4-8	4-8	4-8	4-8
Category	**Code**	**Grade**	**Standard**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Mathematics	M.K.CC.3	K	Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).							X						
Mathematics	M.K.CC.5	K	Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.							X						
Mathematics	M.K.CC.6	K	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.							X						
Mathematics	M.K.MD.2	K	Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.						X	X						
Mathematics	M.1.MD.3	1	Tell and write time in hours and half-hours using analog and digital clocks.						X							
Mathematics	M.2.MD.7	2	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.						X							
Mathematics	M.3.MD.1	3	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.						X							

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Unit: Human Communities

Common Core: Math

Activities	What's the Environment?	Sound Picture	Take a Good Look	Who Lives in My Community?	Lake Landmarks	Litter Tag	Garbage Investigation	Beach Mysteries	Adopt-a-Beach	Taking Action	My Community	Create-a-Community
	4-8	3-6	K-4	K-4	4-8	3-6	4-8	4-8	4-8	4-8	K-3	4-8
	1	2	3	4	5	6	7	8	9	10	11	12

Category	Code	Grade	Standard	1	2	3	4	5	6	7	8	9	10	11	12
Mathematics	M.K.CC.6	K	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.							X		X			
Mathematics	M.K.MD.3	K	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.							X		X			
Mathematics	M.1.MD.4	1	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.							X					
Mathematics	M.2.MD.1	2	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.									X			
Mathematics	M.2.MD.10	2	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.							X					
Mathematics	M.3.MD.3	3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.							X					
Mathematics	M.6.SP.4	6	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.							X					

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Unit: History

Common Core: Math

Activities	Who Needs the Lakes?	Now and Then	Beaches Over Time	Seasons Change	Ways of Life	Boats of Many Sizes	200 Years of Change	Something's Fishy	Water Quality Over Time	A Day In The Life	Sign of the Times
	4-8	3-6	K-4	3-6	4-8	3-6	4-8	6-8	6-8	K-3	4-8
Category	**Standard**	**Grade**	**Standard**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Mathematics	M.2.MD.10	2	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 problems1 using information presented in a bar graph.									X		
Mathematics	M.3.MD.3	3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.									X		
Mathematics	M.6.SP.4	6	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.									X		
Mathematics	M.6.SP.5	6	Summarize numerical data sets in relation to their context, such as by: - Reporting the number of observations. - Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. - Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. - Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.									X		

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Unit: Geology and Water Flow

Common Core: Math

Activities	Timelines	Looking at Landscape	Water, Water Everywhere	Follow the water	Water Flow	Landscape Changes	Rock Songs	Water in Motion	Whose Water?	Climate Change	Geology of My Home	Shaped By Geology
	4-8	K-8	4-8	K-3	4-8	4-8	3-6	4-8	6-8	6-8	K-3	4-8
Category	**Code**	**Grade**	**Standard**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Mathematics	M.2.MD.10	2	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.			X									
Mathematics	M.3.MD.2	3	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.					X							
Mathematics	M.3.MD.3	3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.			X									
Mathematics	M.4.MD.1	4	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...						X						

Category	Code	Grade	Standard	1	2	3	4	5	6	7	8	9	10	11	12
Mathematics	M.4.MD.2	4	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.					X	X						
Mathematics	M.5.MD.1	5	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.						X						
Mathematics	M.6.SP.4	6	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.			X									
Mathematics	M.6.SP.5	6	Summarize numerical data sets in relation to their context, such as by: - Reporting the number of observations. - Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. - Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. - Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.			X									