

Curriculum: WATERFORD EARLY LEARNING: MATH & SCIENCE

Placement: Students begin Waterford Early Learning: Math & Science with an assessment and are placed at a math level within the sequence based on their performance.

OVERVIEW	PRE-MATH & SCIENCE	BASIC MATH & SCIENCE	FLUENT MATH & SCIENCE
MATH SKILLS			
NUMBER & OPERATIONS Teaches number recognition, place value, counting, and arithmetic computation.	<ul style="list-style-type: none"> Recognize, order, and write numbers 0 through 20 Order, count, and sequence numbers to 100 by ones and tens Use strategies to compare group size (more than, less than, or equal to) 	<ul style="list-style-type: none"> Read, write, and count numbers up to 100 Learn place value of 2-digit numbers, including 2-digit number comparison Learn and use keypad Skip counting Explore patterns and sequences of numbers 	<ul style="list-style-type: none"> Understand odd and even numbers Understand place value of 3-digit numbers, including comparison of two 3-digit numbers Use advanced skip counting Understand patterns and sequences of numbers Introduce rounding to tens
OPERATIONS & ALGEBRAIC THINKING Teaches arithmetic computation.	<ul style="list-style-type: none"> Use objects, drawing, etc., to represent addition and subtraction Add and subtract within 10, including solving word problems Fluently add and subtract within 5 Introduce place value of 2-digit numbers 	<ul style="list-style-type: none"> Solve word problems up to 20 Apply commutative and associative properties of addition Understand the relations between addition and subtraction Solve addition and subtraction problems within 20 Fluently add and subtract within 10 Add 2-digit and 1-digit numbers with and without regrouping Add three 1-digit numbers Subtract 2-digit numbers with regrouping 	<ul style="list-style-type: none"> Solve word problems within 100 Fluently add 2-digit numbers Use repeated addition as a strategy to introduce multiplication Add three 2-digit numbers with regrouping Subtract 3-digit numbers with regrouping Fluently add and subtract 3-digit numbers without regrouping Explain addition and subtraction strategies Understand beginning division
MEASUREMENT & DATA Develops a foundational understanding of measurement, time, and money. Prepares students to analyze data.	<ul style="list-style-type: none"> Compare, classify, and describe measurable attributes of objects Use digital and analog clocks to tell time to the hour Identify coins and their value 	<ul style="list-style-type: none"> Use digital and analog clocks to tell time to the half hour Use nonstandard units to measure length Represent data through tally marks, graphs, and Venn diagrams Identify sums of money and coin value 	<ul style="list-style-type: none"> Measure and estimate using standard units of length Use number lines to represent whole numbers Use digital and analog clocks to tell time to the minute Solve word problems using money Represent data through picture graphs, and bar graphs
GEOMETRY Teaches properties of shapes, positioning, and the identification of parts of regions or groups.	<ul style="list-style-type: none"> Identify basic shapes regardless of their orientation and environment Create composite shapes Learn about shape positioning Understand similarities and differences in 2- and 3-dimensional shapes 	<ul style="list-style-type: none"> Partition shapes and describe their parts Create composite shapes Learn to use positioning terms Identify the line of symmetry and create symmetrical figures 	<ul style="list-style-type: none"> Partition shapes into equal parts (up to 1/12) Find the perimeter of shapes Learn to identify similar figures

MATH SKILLS			
PRE-MATH & SCIENCE			
Learning Objectives			
Number & Operations	<ul style="list-style-type: none"> • Explain Numbers • Numbers (0-20) • Number Recognition • Number Chart • Number Patterns • Number Sequences 	<ul style="list-style-type: none"> • Order Numbers • Ordinal Numbers • Count On • Count Down • Skip Count • Greater Than, Less Than 	<ul style="list-style-type: none"> • Number Line • Number Keypad • Make and Count Groups
Operations & Algebraic Thinking	<ul style="list-style-type: none"> • Add Groups • Sums to 5 • Sums to 10 • Act Out Addition 	<ul style="list-style-type: none"> • Subtract Groups • Minuends to 5 • Minuends to 9 • Act Out Subtraction 	
Measurement & Data	<ul style="list-style-type: none"> • Match • Sort • Measurable Attributes • Big and Little • Tall and Short • Heavy and Light 	<ul style="list-style-type: none"> • Order Size • Length • Capacity • Tell Time to the Hour • Coin Identification • Coin Value 	
Geometry	<ul style="list-style-type: none"> • Simple Shapes • Space Shapes • World Shapes • Spatial Orientation 	<ul style="list-style-type: none"> • Patterns • Equal-part Fractions • Halves 	

MATH SKILLS			
BASIC MATH & SCIENCE			
Learning Objectives			
Number & Operations	<ul style="list-style-type: none"> Keypad Number Recognition (0-99) Number Chart (0-99) Number Sequences 	<ul style="list-style-type: none"> Number Patterns Number Line (0-20) Skip Count Ordinal Numbers 	<ul style="list-style-type: none"> More Than, Fewer Than Greater Than, Less Than Expanded Notation Count On
Operations & Algebraic Thinking	<ul style="list-style-type: none"> Make 10 Add Groups Add Groups to 5 Add Tens Missing Addends Addition Sentences Addition Strategy (Doubles, Sums to 20) Addition Strategy (Doubles Plus 1, Sums to 20) Add Three One-digit Numbers Calculator Addition Subtract Tens Subtraction Patterns Subtraction Sentences Missing Minuends and Subtrahends 	<ul style="list-style-type: none"> Subtraction Strategy (Doubles, Minuends to 20) Calculator Subtraction Addition and Subtraction Fact Families Addition and Subtraction Relationship Commutative Property of Addition Add with Regrouping Add 2-digit Numbers without Regrouping Add 2-digit and 1-digit Numbers with Regrouping Add 2-digit Numbers with Regrouping Add Three 2-digit Numbers with Regrouping Add 3-digit Numbers without Regrouping 	<ul style="list-style-type: none"> Subtract with Regrouping Subtract 2-digit Numbers without Regrouping Subtract 3-digit Numbers without Regrouping 2-digit Numbers Minus 1-digit Numbers with Regrouping Subtract 2-digit Numbers with Regrouping Logic Game (Addition) Logic Game (Number Patterns) Logic Game (Probability)
Measurement & Data	<ul style="list-style-type: none"> Tally Marks Graphs Picture Graphs Probability Venn Diagrams Count Coins Quarters 	<ul style="list-style-type: none"> Equivalent Sums of Money Order Numbers on a Clock Tell Time to the Hour Tell Time to the Half Hour Compare Minutes to Hours Sequence Events Sequence Times 	<ul style="list-style-type: none"> Number Line Measurement Tools Nonstandard Units of Length Standard Units of Length Weight Capacity (Quarts, Pints) (Liters)
Geometry	<ul style="list-style-type: none"> Simple Shapes Space Shapes Congruence Symmetry 	<ul style="list-style-type: none"> Similar Figures Spatial Orientation Equal-part Fractions Label Parts of Fractions 	

MATH SKILLS			
FLUENT MATH & SCIENCE			
Learning Objectives			
Numbers & Operations	<ul style="list-style-type: none"> Skip Count Round to Tens Place Value 	<ul style="list-style-type: none"> Greater Than, Less Than Number Sequences Number Patterns 	
Operations & Algebraic Thinking	<ul style="list-style-type: none"> Missing Addends Make 10 Addition Strategy (Doubles, Sums to 20) Addition Strategy (Doubles Plus 1, Sums to 20) Commutative Property of Addition Add with Regrouping Add 2-digit and 1-digit Numbers with Regrouping Add 2-digit Numbers without Regrouping Add 2-digit Numbers with Regrouping Add Three 2-digit Numbers with Regrouping Add 3-digit Numbers without Regrouping 	<ul style="list-style-type: none"> Add 3-digit Numbers with Regrouping Subtraction Patterns Subtract with Regrouping Subtraction Strategy (Doubles, Minuends to 20) Subtract 2-digit Numbers without Regrouping Subtract 2-digit Numbers with Regrouping Subtract 3-digit Numbers without Regrouping Subtract 3-digit Numbers with Regrouping 2-digit Numbers Minus 1-digit Numbers with Regrouping Missing Minuends and Subtrahends 	<ul style="list-style-type: none"> Multiply Using Repeated Addition Multiply Using Arrays Multiplication and Division Fact Families Multiply by 0 Multiply by 1 Multiply by 2 Multiply by 5 Multiply by 10 Divide Using Equal Sharing Divide Using Repeated Subtraction Divide by 1 Divide by 2 Divide by 5 Divide by 10
Measurement & Data	<ul style="list-style-type: none"> Picture Graphs Bar Graphs Count Coins Count Bills and Coins Make Change Tell Time to the Quarter Hour 	<ul style="list-style-type: none"> Tell Time to 5 Minutes Tell Time to the Minute Standard Units of Length Measuring Using Nonstandard Units of Length 	
Geometry	<ul style="list-style-type: none"> Fractions of Regions Similar Figures Fractions of Groups 	<ul style="list-style-type: none"> Label Parts of Fractions Perimeter Geoboard 	

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OVERVIEW	PRE-MATH & SCIENCE	BASIC MATH & SCIENCE	FLUENT MATH & SCIENCE
SCIENCE SKILLS			
SCIENCE AS INQUIRY Provides context and hands-on experiences using the scientific method.	<ul style="list-style-type: none"> • Scientist biographies • Science investigation • Observe a simple system over time 	<ul style="list-style-type: none"> • Scientist biographies • Science tools • Science experiments 	<ul style="list-style-type: none"> • Scientist biographies • Science experiments
PHYSICAL SCIENCE Develops understanding of matter and materials, force, and energy.	<ul style="list-style-type: none"> • Materials, solids, and liquids • Push/Pull • Magnets 	<ul style="list-style-type: none"> • Solid, liquid, gas • States of water • Properties of gravity 	<ul style="list-style-type: none"> • Matter • Simple machines • Light • Electricity • Heat • Sound
LIFE SCIENCE Develops understanding of living things: plants, animals, and ecosystems.	<ul style="list-style-type: none"> • Living and nonliving • Plant or animal • Labeling plants • Categorizing animals • Ecosystems 	<ul style="list-style-type: none"> • Food chains • Respiration • Function and use of plants • Classify animals • Ecosystems 	<ul style="list-style-type: none"> • Traits of living things • Plant life cycle and growth • Animal life cycle and growth • Social insects
EARTH & SPACE SCIENCE Develops understanding of astronomy, meteorology, seasons, air, hydrology, and geology.	<ul style="list-style-type: none"> • Sun, moon, constellations • Seasons • Water and clouds 	<ul style="list-style-type: none"> • Earth • Weather • Air • Water • Rocks 	<ul style="list-style-type: none"> • Sun, moon, earth • Moon patterns • Water cycle • Fossils • Dinosaurs • Rock cycle • Soil
PERSONAL & SOCIAL PERSPECTIVES Develops understanding of environment, conservation, health, safety, observation, and inventions.	<ul style="list-style-type: none"> • Pollution and recycling • Five senses 	<ul style="list-style-type: none"> • Uses of water • Weather affects people and animals • Care of earth, air, and water • Lightning safety • Health: germs, exercise, rest, teeth, and food 	<ul style="list-style-type: none"> • Natural resources • Inventions

WATERFORD CURRICULUM SKILLS TAUGHT

SCIENCE SKILLS				
LEARNING OBJECTIVES				
Pre-Math & Science	<ul style="list-style-type: none"> • Science Investigation • Sight • Hearing • Touch • Smell • Taste • Living or Nonliving • Plant or Animal • Plants • Food from Plants 	<ul style="list-style-type: none"> • Mammals • Birds • Fish • Amphibians • Reptiles • Insects • Spiders • Worms • Invertebrates • Sun 	<ul style="list-style-type: none"> • Moon • Constellations • Water • Clouds • Spring • Summer • Fall • Winter • Ecosystems • Deserts 	<ul style="list-style-type: none"> • Oceans • Mountains • Rain Forests • Pollution and Recycling • Materials • Solid and Liquid • Push and Pull • Magnets
Basic Math & Science	<ul style="list-style-type: none"> • Science Tools • Science Investigation • Animal Bodies • Plants and Animals • Animal Groups • Herbivores, Carnivores, and Omnivores • Food Chains • Polar Lands • Wetlands • Prairies • Backyards 	<ul style="list-style-type: none"> • Ecosystems • Functions of Plant Parts • Edible Plant Parts • Healthy Plants' Needs • Plant Uses • Plants Unit Assessment • Weather • Weather Tools • Weather Patterns • Lightning Safety • Weather Affects People and Animals 	<ul style="list-style-type: none"> • Weather Unit Assessment • Air • Plants and Animals Need Air • Water • Animals Need Water • Plants Need Water • Water Sources • Care of Earth • Care of Air • Care of Water • Earth • Rocks 	<ul style="list-style-type: none"> • Solid, Liquid, Gas • States of Water • Matter • Gravity • Germs • Avoid Germs and Prevent Illness • Exercise and Rest • Teeth • Healthy Food
Fluent Math & Science	<ul style="list-style-type: none"> • Sun, Moon, and Earth • Moon Patterns • Animal Life Cycle and Growth • Traits of Living Things • Social Insects 	<ul style="list-style-type: none"> • Plant Life Cycle and Growth • Water Cycle • Fossils • Dinosaurs • Natural Resources • Rock Cycle 	<ul style="list-style-type: none"> • Soil • Light Sources • Light • Electricity • Heat Sources and Uses • Heat Movement 	<ul style="list-style-type: none"> • Changes in Matter • Sound Waves • Pitch and Volume • Simple Machines • Inventions