Common Core Mathematics Standards	Aquatic WILD K-12 Curriculum & Activity Guide
KINDERGARTEN	
Counting and Cardinality **K.CC**	
1. Know number names and the count sequence.	
2. Count to tell the number of objects.	
3. Compare numbers.	
Operations and Algebraic Thinking **K.OA**	
1. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.	
Numbers and Operations in Base Ten **K.NBT**	
1. Work with numbers 11–19 to gain foundations for place value.	
Measurement and Data **K.MD**	
1. Describe and compare measurable attributes.	
2. Classify objects and count the number of objects in each category.	
Geometry **K.G**	
1. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).	
2. Analyze, compare, create, and compose shapes.	

Common Core Mathematics Standards	
GRADE 1	
Operations and Algebraic Thinking 1.OA	
1. Represent and solve problems involving addition and subtraction.	
2. Understand and apply properties of operations and the relationship between addition and subtraction.	
3. Add and subtract within 20.	
4. Work with addition and subtraction equations.	
Numbers and Operations in Base Ten 1.NBT	
1. Extend the counting sequence.	
2. Understand place value.	
3. Use place value understanding and properties of operations to add and subtract.	
Measurement and Data 1.MD	
1. Measure lengths indirectly and by iterating length units.	
2. Tell and write time.	
3. Represent and interpret data.	
Geometry 1.G	
1. Reason with shapes and their attributes.	

Common Core Mathematics Standards	
GRADE 2	
Operations and Algebraic Thinking 2.OA	
1. Represent and solve problems involving addition and subtraction.	Got Water?; Plastic Voyages
2. Add and subtract within 20.	Got Water?; Plastic Voyages
3. Work with equal groups of objects to gain foundations for multiplication.	Plastic Voyages
Numbers and Operations in Base Ten 2.NBT	
1. Understand place value.	Got Water?; Plastic Voyages
2. Use place value understanding and properties of operations to add and subtract.	Got Water?; Plastic Voyages
Measurement and Data 2.MD	
1. Measure and estimate lengths in standard units.	Got Water?
2. Relate addition and subtraction to length.	Got Water?
3. Work with time and money.	
4. Represent and interpret data.	Got Water?
Geometry 2.G	
1. Reason with shapes and their attributes.	Got Water?; Plastic Voyages

Common Core Mathematics Standards	
GRADE 3	
Operations and Algebraic Thinking 3.OA	
1. Represent and solve problems involving multiplication and division.	Got Water?; Plastic Voyages
2. Understand properties of multiplication and the relationship between multiplication and division.	Got Water?
3. Multiply and divide within 100.	Got Water?; Plastic Voyages
4. Solve problems involving the four operations, and identify and explain patterns in arithmetic.	Got Water?;Plastic Voyages
Numbers and Operations in Base Ten 3.NBT	
1. Use place value understanding and properties of operations to perform multi-digit arithmetic.	Got Water?; Plastic Voyages
Number and Operations—Fractions 3.NF	
1. Develop understanding of fractions as numbers.	Got Water?
Measurement and Data 3.MD	
1. Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	Alice in Waterland
2. Represent and interpret data.	Got Water?; Plastic Voyages
3. Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	Got Water?
4. Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	Got Water?
Geometry 3.G	
1. Reason with shapes and their attributes.	Got Water?; Plastic Voyages

Common Core Mathematics Standards	
GRADE 4	
Operations and Algebraic Thinking 4.OA	
1. Use the four operations with whole numbers to solve problems.	Got Water?; Plastic Voyages
2. Gain familiarity with factors and multiples.	
3. Generate and analyze patterns.	Got Water?; Plastic Voyages
Numbers and Operations in Base Ten 4.NBT	
1. Generalize place value understanding for multi-digit whole numbers.	Got Water?; Plastic Voyages
2. Use place value understanding and properties of operations to perform multi-digit arithmetic.	Got Water?; Plastic Voyages
Number and Operations—Fractions 4.NF	
1. Extend understanding of fraction equivalence and ordering.	Got Water?
2. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.	Got Water?
3. Understand decimal notation for fractions, and compare decimal fractions.	Got Water?
Measurement and Data 4.MD	
1. Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	Got Water?; Plastic Voyages
2. Represent and interpret data.	Alice in Waterland; Got Water?; Plastic Voyages
3. Geometric measurement: understand concepts of angle and measure angles.	Got Water?
Geometry 4.G	
1. Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	Got Water?; Plastic Voyages

Common Core Mathematics Standards	
GRADE 5	
Operations and Algebraic Thinking **5.OA**	
1. Write and interpret numerical expressions.	
2. Analyze patterns and relationships.	Got Water?; Plastic Voyages; What's in the Water?
Numbers and Operations in Base Ten **5.NBT**	
1. Understand the place value system.	Got Water?; Plastic Voyages
2. Perform operations with multi-digit whole numbers and with decimals to hundredths.	Got Water?; Plastic Voyages
Number and Operations—Fractions **5.NF**	
1. Use equivalent fractions as a strategy to add and subtract fractions.	
2. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	Got Water?
Measurement and Data **5.MD**	
1. Convert like measurement units within a given measurement system.	Got Water?; Plastic Voyages
2. Represent and interpret data.	Alice in Waterland; Got Water?; Plastic Voyages; What's in the Water?
3. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.	
Geometry **5.G**	
1. Graph points on the coordinate plane to solve real-world and mathematical problems.	Got Water?
2. Classify two-dimensional figures into categories based on their properties.	Got Water?; Plastic Voyages

Common Core Mathematics Standards	
GRADE 6	
Ratios and Proportional Relationships 6.RP	
1. Understand ratio concepts and use ratio reasoning to solve problems.	How Wet is Our Planet?; Net Gain, Net Effect; What's in the Air?; What's in the Water?; Where Does Water Run?
The Number System 6.NS	
1. Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	Watershed; Where Does Water Run?
2. Compute fluently with multi-digit numbers and find common factors and multiples.	How Wet is Our Planet?; Where Does Water Run?
3. Apply and extend previous understandings of numbers to the system of rational numbers.	Watershed
Expressions and Equations 6.EE	
1. Apply and extend previous understandings of arithmetic to algebraic expressions.	Watershed
2. Reason about and solve one-variable equations and inequalities.	Net Gain, Net Effect; Watershed
3. Represent and analyze quantitative relationships between dependent and independent variables.	Net Gain, Net Effect; Where Does Water Run?; Where Have All the Salmon Gone?
Geometry 6.G	
1. Solve real-world and mathematical problems involving area, surface area, and volume.	How Wet is Our Planet?; Net Gain, Net Effect; Puddle Wonders; Watershed; Where Does Water Run?
Statistics and Probability 6. SP	
1. Develop understanding of statistical variability.	Net Gain, Net Effect; What's in the Air?; Where Does Water Run?; Where Have All the Salmon Gone?
2. Summarize and describe distributions.	Alice in Waterland; Net Gain, Net Effect; What's in the Air?; Where Does Water Run?; Where Have All the Salmon Gone?

Common Core Mathematics Standards	
GRADE 7	
Ratios and Proportional Relationships 7.RP	
1. Analyze proportional relationships and use them to solve real-world and mathematical problems.	How Wet is Our Planet?; Alice in Waterland; Net Gain, Net Effect; What's in the Air?; Where Does Water Run?
The Number System 7.NS	
1. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	How Wet is Our Planet?; Where Does Water Run?
Expressions and Equations 7.EE	
1. Use properties of operations to generate equivalent expressions.	
2. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	How Wet is Our Planet?; Alice in Waterland; Watershed
Geometry 7.G	
1. Draw, construct, and describe geometrical figures and describe the relationships between them.	Net Gain, Net Effect; Puddle Wonders; Watershed; Where Does Water Run?
2. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	How Wet is Our Planet?; Net Gain, Net Effect; Puddle Wonders; Watershed; Where Does Water Run?
Statistics and Probability 7.SP	
1. Use random sampling to draw inferences about a population.	Alice in Waterland; Net Gain, Net effect; Puddle Wonders; What's in the Water?; Where Does Water Run?; Where Have All the Salmon Gone?
2. Draw informal comparative inferences about two populations.	Net Gain, Net Effect; Puddle Wonders; What's in the Air?; What's in the Water?; Where Does Water Run?; Where Have All the Salmon Gone?
3. Investigate chance processes and develop, use, and evaluate probability models.	Net Gain, Net Effect; Where Does Water Run?

Common Core Mathematics Standards	
GRADE 8	
The Number System **8.NS**	
1. Know that there are numbers that are not rational, and approximate them by rational numbers.	
Expressions and Equations **8.EE**	
1. Work with radicals and integer exponents.	
2. Understand the connections between proportional relationships, lines, and linear equations.	Alice in Waterland
3. Analyze and solve linear equations and pairs of simultaneous linear equations.	Watershed
Functions **8.F**	
1. Define, evaluate, and compare functions.	
2. Use functions to model relationships between quantities.	Net Gain, Net Effect
Geometry **8.G**	
1. Understand congruence and similarity using physical models, transparencies, or geometry software.	Watershed
2. Understand and apply the Pythagorean Theorem.	Watershed
3. Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	How Wet is Our Planet?; Net Gain, Net Effect; Puddle Wonders
Statistics and Probability **8.SP**	
1. Investigate patterns of association in bivariate data.	Alice in Waterland; Net Gain, Net Effect; Puddle Wonders; What's in the Air?; What's in the Water?; Where Does Water Run?; Where Have All the Salmon Gone?

High School	
Number and Quantity	
The Real Number System **N-RN**	
1. Extend the properties of exponents to rational exponents.	
2. Use properties of rational and irrational numbers.	
Quantities **N-Q**	
1. Reason quantitatively and use units to solve problems.	Eat and Glow; Watershed
The Complex Number System **N-CN**	
1. Perform arithmetic operations with complex numbers.	
2. Represent complex numbers and their operations on the complex plane.	
3. Use complex numbers in polynomial identities and equations.	
Vector and Matrix Quantities **N-VM**	
1. Represent and model with vector quantities.	
2. Perform operations on vectors.	
3. Perform operations on matrices and use matrices in applications.	

High School	
Algebra	
Seeing Structure in Expressions A-SSE	
1. Interpret the structure of expressions.	
2. Write expressions in equivalent forms to solve problems.	
Arithmetic with Polynomials and Rational Expressions A-APR	
1. Perform arithmetic operations on polynomials.	
2. Understand the relationship between zeros and factors of polynomials	
3. Use polynomial identities to solve problems.	
4. Rewrite rational expressions.	
Creating Equations A-CED	
1. Create equations that describe numbers or relationships.	
Reasoning with Equations and Inequalities A-REI	
1. Understand solving equations as a process of reasoning and explain the reasoning.	
2. Solve equations and inequalities in one variable.	Watershed
3. Solve systems of equations.	
4. Represent and solve equations and inequalities graphically.	Where Have All the Salmon Gone?

High School	
Functions	
Interpreting Functions **F-IF**	
1. Understand the concept of a function and use function notation.	
2. Interpret functions that arise in applications in terms of the context.	Eat and Glow; Where Have All the Salmon Gone?
3. Analyze functions using different representations.	Where Have All the Salmon Gone?
Building Functions **F-BF**	
1. Build a function that models a relationship between two quantities.	
2. Build new functions from existing functions.	
Linear, Quadratic, and Exponential Models **F-LE**	
1. Construct and compare linear, quadratic, and exponential models and solve problems.	Eat and Glow
2. Interpret expressions for functions in terms of the situation they model.	Eat and Glow; Where Have All the Salmon Gone?
Trigonometric Functions **F-TF**	
1. Extend the domain of trigonometric functions using the unit circle.	
2. Model periodic phenomena with trigonometric functions.	
3. Prove and apply trigonometric identities.	

High School	
Geometry	
Congruence **G-CO**	
1. Experiment with transformations in the plane.	
2. Understand congruence in terms of rigid motions.	
3. Prove geometric theorems.	
4. Make geometric constructions.	Where Does Water Run?
Similarity, Right Triangles, and Trigonometry **G-SRT**	
1. Understand similarity in terms of similarity transformations.	
2. Prove theorems involving similarity.	
3. Define trigonometric ratios and solve problems involving right triangles.	
4. Apply trigonometry to general triangles.	Watershed
Circles **G-C**	
1. Understand and apply theorems about circles.	
2. Find arc lengths and areas of sectors of circles.	
Expressing Geometric Properties with Equations **G-GPE**	
1. Translate between the geometric description and the equation for a conic section.	
2. Use coordinates to prove simple geometric theorems algebraically.	
Geometric Measurement and Dimension **G-GMD**	
1. Explain volume formulas and use them to solve problems.	Watershed
2. Visualize relationships between two-dimensional and three-dimensional objects.	Watershed
Modeling with Geometry **G-MG**	
1. Apply geometric concepts in modeling situations.	Watershed; Where Does Water Run?

High School	
Statistics and Probability	
Interpreting Categorical and Quantitative Data S-ID	
1. Summarize, represent, and interpret data on a single count or measurement variable.	Eat and Glow; Where Does Water Run?; Where Have All the Salmon Gone?
2. Summarize, represent, and interpret data on two categorical and quantitative variables.	Eat and Glow; Where Does Water Run?; Where Have All the Salmon Gone?
3. Interpret linear models.	Eat and Glow; Where Have All the Salmon Gone?
Making Inferences and Justifying Conclusions S-IC	
1. Understand and evaluate random processes underlying statistical experiments.	Where Does Water Run?; Where Have All the Salmon Gone?
2. Make inferences and justify conclusions from sample surveys, experiments, and observational studies.	Eat and Glow; Where Does Water Run?; Where Have All the Salmon Gone?
Conditional Probability and the Rules of Probability S-CP	
1. Understand independence and conditional probability and use them to interpret data.	Eat and Glow; Where Have All the Salmon Gone?
2. Use the rules of probability to compute probabilities of compound events in a uniform probability model.	
Using Probability to Make Decisions S-MD	
1. Calculate expected values and use them to solve problems.	Eat and Glow
2. Use probability to evaluate outcomes of decisions.	Eat and Glow; Where Does Water Run?; Where Have All the Salmon Gone?