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| **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. |  |
| 1. Count to tell the number of objects. |  |
| 1. 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. |  |
| 1. 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). |  |
| 1. Analyze, compare, create, and compose shapes. |  |

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| **Common Core Mathematics Standards** |  |
| **GRADE 1** |  |
| **Operations and Algebraic Thinking 1.OA** |  |
| 1. Represent and solve problems involving addition and subtraction. |  |
| 1. Understand and apply properties of operations and the relationship between addition and subtraction. |  |
| 1. Add and subtract within 20. |  |
| 1. Work with addition and subtraction equations. |  |
| **Numbers and Operations in Base Ten 1.NBT** |  |
| 1. Extend the counting sequence. |  |
| 1. Understand place value. |  |
| 1. 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. |  |
| 1. Tell and write time. |  |
| 1. Represent and interpret data. |  |
| **Geometry 1.G** |  |
| 1. Reason with shapes and their attributes. |  |

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| **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 |
| 1. Add and subtract within 20. | Got Water?; Plastic Voyages |
| 1. 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 |
| 1. 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? |
| 1. Relate addition and subtraction to length. | Got Water? |
| 1. Work with time and money. |  |
| 1. Represent and interpret data. | Got Water? |
| **Geometry 2.G** |  |
| 1. Reason with shapes and their attributes. | Got Water?; Plastic Voyages |

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| **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 |
| 1. Understand properties of multiplication and the relationship between multiplication and division. | Got Water? |
| 1. Multiply and divide within 100. | Got Water?; Plastic Voyages |
| 1. 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 |
| 1. Represent and interpret data. | Got Water?; Plastic Voyages |
| 1. Geometric measurement: understand concepts of area and relate area to multiplication and to addition. | Got Water? |
| 1. 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 |

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| **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 |
| 1. Gain familiarity with factors and multiples. |  |
| 1. 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 |
| 1. 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? |
| 1. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. | Got Water? |
| 1. 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 |
| 1. Represent and interpret data. | Alice in Waterland; Got Water?; Plastic Voyages |
| 1. 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 |

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| **Common Core Mathematics Standards** |  |
| **GRADE 5** |  |
| **Operations and Algebraic Thinking 5.OA** |  |
| 1. Write and interpret numerical expressions. |  |
| 1. 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 |
| 1. 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. |  |
| 1. 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 |
| 1. Represent and interpret data. | Alice in Waterland; Got Water?; Plastic Voyages; What’s in the Water? |
| 1. 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? |
| 1. Classify two-dimensional figures into categories based on their properties. | Got Water?; Plastic Voyages |

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| **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? |
| 1. Compute fluently with multi-digit numbers and find common factors and multiples. | How Wet is Our Planet?; Where Does Water Run? |
| 1. 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 |
| 1. Reason about and solve one-variable equations and inequalities. | Net Gain, Net Effect; Watershed |
| 1. 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? |
| 1. 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? |

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| **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. |  |
| 1. 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? |
| 1. 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? |
| 1. 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? |
| 1. Investigate chance processes and develop, use, and evaluate probability models. | Net Gain, Net Effect; Where Does Water Run? |

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| **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. |  |
| 1. Understand the connections between proportional relationships, lines, and linear equations. | Alice in Waterland |
| 1. Analyze and solve linear equations and pairs of simultaneous linear equations. | Watershed |
| **Functions 8.F** |  |
| 1. Define, evaluate, and compare functions. |  |
| 1. 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 |
| 1. Understand and apply the Pythagorean Theorem. | Watershed |
| 1. 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? |

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| **High School** |  |
| **Number and Quantity** |  |
| **The Real Number System N-RN** |  |
| 1. Extend the properties of exponents to rational exponents. |  |
| 1. 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. |  |
| 1. Represent complex numbers and their operations on the complex plane. |  |
| 1. Use complex numbers in polynomial identities and equations. |  |
| **Vector and Matrix Quantities N-VM** |  |
| 1. Represent and model with vector quantities. |  |
| 1. Perform operations on vectors. |  |
| 1. Perform operations on matrices and use matrices in applications. |  |

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| **High School** |  |
| **Algebra** |  |
| **Seeing Structure in Expressions A-SSE** |  |
| 1. Interpret the structure of expressions. |  |
| 1. Write expressions in equivalent forms to solve problems. |  |
| **Arithmetic with Polynomials and Rational Expressions A-APR** |  |
| 1. Perform arithmetic operations on polynomials. |  |
| 1. Understand the relationship between zeros and factors of polynomials |  |
| 1. Use polynomial identities to solve problems. |  |
| 1. 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. |  |
| 1. Solve equations and inequalities in one variable. | Watershed |
| 1. Solve systems of equations. |  |
| 1. Represent and solve equations and inequalities graphically. | Where Have All the Salmon Gone? |

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| **High School** |  |
| **Functions** |  |
| **Interpreting Functions F-IF** |  |
| 1. Understand the concept of a function and use function notation. |  |
| 1. Interpret functions that arise in applications in terms of the context. | Eat and Glow; Where Have All the Salmon Gone? |
| 1. 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. |  |
| 1. 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 |
| 1. 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. |  |
| 1. Model periodic phenomena with trigonometric functions. |  |
| 1. Prove and apply trigonometric identities. |  |

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| **High School** |  |
| **Geometry** |  |
| **Congruence G-CO** |  |
| 1. Experiment with transformations in the plane. |  |
| 1. Understand congruence in terms of rigid motions. |  |
| 1. Prove geometric theorems. |  |
| 1. Make geometric constructions. | Where Does Water Run? |
| **Similarity, Right Triangles, and Trigonometry G-SRT** |  |
| 1. Understand similarity in terms of similarity transformations. |  |
| 1. Prove theorems involving similarity. |  |
| 1. Define trigonometric ratios and solve problems involving right triangles. |  |
| 1. Apply trigonometry to general triangles. | Watershed |
| **Circles G-C** |  |
| 1. Understand and apply theorems about circles. |  |
| 1. 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. |  |
| 1. 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 |
| 1. 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? |

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| **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? |
| 1. Summarize, represent, and interpret data on two categorical and quantitative variables. | Eat and Glow; Where Does Water Run?; Where Have All the Salmon Gone? |
| 1. 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? |
| 1. 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? |
| 1. 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 |
| 1. Use probability to evaluate outcomes of decisions. | Eat and Glow; Where Does Water Run?; Where Have All the Salmon Gone? |