

# **Project WILD and Aquatic WILD**

## **Correlations to Indiana Math Standards, grades K-8**



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# Kindergarten

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## Standard 1 Number Sense

*Students understand the relationship between numbers and quantities up to 10, and that a set of objects has the same number in all situations regardless of the position or arrangement of the objects.*

K.1.6- Count, recognize, name and order a number of objects (up to 10)



PW: Seed Need pg. 98

K.1.9- Record and organize information using objects and pictures



PW: Graphananimal pg. 49



PWA: Water We Eating? Pg. 83

## Standard 2 Computation

*Students understand and describe simple additions and subtractions.*

## Standard 3 Algebra and Functions

*Students sort and classify objects.*

K.3.1- Identify, sort, and classify objects by size, number, and other attributes. Identify objects that do not belong to a particular group.



PW: Graphananimal pg. 49



PWA: Plastic Jellyfish pg. 128

## Standard 5 Measurement

*Students understand the concept of time and units to measure it. They understand that objects have length, capacity, weight, and temperature, and that they can compare objects using these quantities.*

K.5.1- Make direct comparisons of the length, capacity, weight, and temperature of objects and recognize which object is shorter, longer, taller, lighter, heavier, warmer, cooler, or holds more.



PWA: Fashion a Fish pg. 56

# 1<sup>st</sup> Grade

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## Standard 1 Number Sense

*Students understand symbols, objects, and pictures used to represent numbers up to 100 and show an understanding of fractions.*

1.1.10- Represent, compare, and interpret data using pictures and picture graphs.



PW: Graphananimal pg. 49



PWA: Fashion a Fish pg. 56

## Standard 5 Measurement

*Students learn how to measure length, as well as how to compare, order, and describe other kinds of measurement.*

1.5.4- Measure and estimate the length of an object to the nearest inch and centimeter.



PW: Seed Need pg. 98

# 2<sup>nd</sup> Grade

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## Standard 1 Number Sense

*Students understand the relationships among numbers, quantities, and place value in whole numbers up to 100. They understand that fractions may refer to parts of a set and parts of a whole.*

2.1.12- Represent, compare, and interpret data using tables, tally charts, and bar graphs.



PW: Graphananimal pg. 49

Seed Need pg. 98



PWA: Plastic Jellyfish pg. 128

## Standard 5 Measurement

*Students understand how to measure length, temperature, capacity, weight, and time in standard units.*

2.5.1- Measure and estimate the length to the nearest inch, foot, yard, centimeter, and meter.



PW: Seed Need pg. 98

## 3<sup>rd</sup> Grade

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### Standard 5 Measurement

*Students choose and use appropriate units and measurement tools for length, capacity, weight, temperature, time, and money.*

3.5.6- Estimate and measure capacity using quarts, gallons, and liters.



PWA: Water's Going On? Pg. 149

## 4<sup>th</sup> Grade

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### Standard 2 Computation

*Students solve problems involving addition, subtraction, multiplication, and division of whole numbers and understand the relationships among these operations. They extend their use and understanding of whole numbers to the addition and subtraction of simple fractions and decimals.*

4.2.5- Use a standard algorithm to multiply numbers up to 100 by numbers up to 10, using relevant properties of the number system.



PWA: Water's Going On? Pg. 149

4.2.10- Use a standard algorithm to add and subtract decimals (to hundredths).



PW: Lobster in Your Lunch Box pg. 245

### Standard 5 Measurement

*Students understand perimeter and area, as well as measuring volume, capacity, time, and money.*

4.5.10- Determine the amount of change from a purchase.



PW: Pay to Play pg. 216

## **Standard 6**

### **Data Analysis and Probability**

*Students organize, represent, and interpret numerical and categorical data and clearly communicate the findings. They show outcomes for simple probability situations.*

4.6.1- Represent data on a number line and in tables, including frequency tables.



PW: Graphanimal pg. 49



PWA: Net Gain, Net Effect pg 85  
Water's Going On? Pg. 149

## **Standard 7**

### **Problem Solving**

*Students make decisions about how to approach problems and communicate their ideas.*

4.7.4- Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, tools, and models to solve problems, justify arguments, and make conjectures.



PW: Grahanimal pg. 49  
Seed Need pg. 98  
Time Lapse pg. 158  
Lobster in Your Lunch Box pg. 245



PWA: Net Gain, Net Effect pg. 85  
Water's Going On? Pg. 149

## **5<sup>th</sup> Grade**

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### **Standard 1**

#### **Number Sense**

*Students compute with whole numbers, decimals, and fractions and understand the relationship among decimals, fractions, and percents. They understand the relative magnitudes of numbers. They understand prime and composite numbers.*

5.1.4- Interpret percents as a part of a hundred. Find decimal and percent equivalents for common fractions and explain why they represent the same value.



PW: How Many Bears Can Live in This Forest? pg. 23  
Bottleneck Genes pg. 172



PWA: How Wet Is Our Planet? Pg. 121  
What's in the Air? Pg. 136

## Standard 2 Computation

*Students solve problems involving multiplication and division of whole numbers and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.*

5.2.1- Solve problems involving multiplication and division of any whole numbers.



PW: How Many Bears Can Live in This Forest? pg. 23  
I'm Thirsty pg. 134



PWA: Puddle Wonders pg. 114  
Water's Going On? Pg. 149  
Alice in Waterland pg. 151

5.2.6- Use estimation to decide whether answers are reasonable in addition, subtraction, multiplication, and division problems.



PWA: Water's Going On? Pg. 149

## Standard 3 Algebra and Functions

*Students use variables in simple expressions, compute the value of an expression for specific values of the variable, and plot and interpret the results. They use two-dimensional coordinate grids to represent points and graph lines.*

5.3.4- Identify and graph ordered pairs of positive numbers.



PW: Bearly Growing pg. 19  
Seed Need pg. 98  
Turkey Trouble pg. 367



PWA: Migration Headache pg. 15  
What's in the Air pg. 136

## Where Have All the Salmon Gone? Pg. 181

5.3.7- Use information taken from a graph or equation to answer questions about a problem situation.



PW: Bearly Growing pg. 19  
Oh, Deer! Pg. 36  
No Water Off a Duck's Back pg. 305  
Turkey Trouble pg. 367



PWA: Net Gain, Net Effect pg. 85  
What's in the Air? Pg. 136  
What's in the Water? Pg. 140

### **Standard 4 Geometry**

*Students identify, describe, and classify the properties of plane and solid geometric shapes and the relationships between them.*

5.4.1- Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, triangles and circles by using appropriate tools (e.g. ruler, compass, protractor, appropriate technology and media tools.)



PWA: Watershed pg. 132

5.4.3- Identify congruent triangles and justify your decisions by referring to sides and angles.



PWA: Watershed pg. 132

5.4.5- Identify and draw the radius and diameter of a circle and understand the relationship between the radius and diameter.



PWA: Puddle wonders pg. 114

### **Standard 5 Measurement**

*Students understand and compute the areas and volumes of simple objects, as well as measuring weight, temperature, time, and money.*

5.5.1- Understand and apply the formulas for the area of a triangle, parallelogram, and trapezoid.



PWA: Puddle wonders pg. 114  
Watershed pg. 132

5.5.2- Solve problems involving perimeters and areas of rectangles, triangles, parallelograms, and trapezoids, using appropriate units.



PWA: Where Does Water Run? pg. 21  
Watershed pg. 132



PW: No Water Off a Duck's Back pg. 305

5.5.3- Use formulas for area of rectangles and triangles to find the area of complex shapes by dividing them into basic shapes.



PW: World Travelers pg. 330

5.5.4- Find the surface area and volume of rectangular solids using appropriate units.



PWA: Where Does Water Run? pg.21

5.5.5- Understand and use the smaller and larger units for measuring weight (ounce, gram, and ton) and their relationship to pounds and kilograms.



PWA: Where Does Water Run? pg. 21

5.5.7- Add and subtract with money in decimal notation.



PW: Lobster in Your Lunch Box pg. 245

## **Standard 6**

### **Data Analysis and Probability**

*Students collect, display, analyze, compare, and interpret data sets. They use the results of probability experiments to predict future events.*

5.6.1- Explain which types of display are appropriate for various sets of data.



PWA: Eat and Glow pg. 69  
What's in the Air? Pg 136



PW: Bearly Growing pg. 19

## **Standard 7**

### **Problem Solving**

*Students make decisions about how to approach problems and communicate their ideas.*

5.7.1- Analyze problems by identifying relationships, telling relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.



PWA: Where Does Water Run? pg. 21

Eat and Glow pg. 69

Edge of Home pg. 75

Net Gain, Net Effect pg. 85

What's in the Air pg. 136

What's in the Water? pg. 140

Water's Going On? pg. 149

Alice in Waterland pg. 151

Where Have All the Salmon Gone? pg. 181



PW: Bearly Growing pg. 19

How Many Bears Can Live in This Forest? pg. 23

Oh Deer! pg. 36

No Water Off a Duck's Back pg. 305

World Travelers pg. 330

Turkey Trouble pg. 367

5.7.3- Apply strategies and results from simpler problems to solve more complex problems.



PWA: How Wet Is Our Planet? pg. 121



PW: Seed Need pg. 98

5.7.4- Express solutions clearly and logically by using the appropriate mathematical terms and notation. Support solutions with evidence in both verbal and symbolic work.



PW: Oh Deer! pg. 36

5.7.6- Know and apply appropriate methods for estimating results of rational number computations.



PWA: Water's Going On? pg. 149

Alice in Waterland pg. 151

## 6<sup>th</sup> Grade

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### Standard 1 Number Sense

*Students compare and order positive and negative integers, decimals, fractions, and mixed numbers. They find multiples and factors.*

6.1.4- Convert between any two representations of numbers: fractions, decimals, and percents, without the use of a calculator. (Core Standard)



PWA: How Wet Is Our Planet? p. 121



PW: How Many Bears Can Live in This Forest? p. 23  
Lobster in Your Lunch Box p. 245

6.1.6- Use models to represent ratios. (Core Standard)



PWA: Whale of a Tail p. 10  
Designing a Habitat p. 19

## Standard 2

### Computation

*Students solve problems involving addition, subtraction, multiplication, and division of integers. They solve problems involving fractions, decimals, ratios, proportions, and percentages*

6.2.2- Multiply and divide positive and negative integers. (Core Standard)



PWA: How Wet Is Our Planet? p. 121  
Water's Going On? p. 149



PW: How Many Bears Can Live in This Forest? p. 23  
I'm Thirsty p. 134  
Checks and Balances p. 387

6.2.5- Solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why a particular operation was used for a given situation. (Core Standard)



PW: Checks and Balances p. 387

6.2.7- Understand proportions and use them to solve problems. (Core Standard)




PW: World Travelers p. 330

## Standard 3

### Algebra and Functions

*Students write verbal expressions and sentences as algebraic expressions and equations. They evaluate algebraic expressions, solve simple linear equations, and graph and interpret their results. They investigate geometric relationships and describe them algebraically.*


6.3.2- Write and use formulas with up to three variable to solve problems.

 PWA: Where Does Water Run? p. 21  
Puddle Wonders! p. 114  
Watershed p. 132


6.3.5- Use variables in expressions describing geometric quantities.

 PWA: Puddle Wonders! p. 114  
Watershed p. 132

6.3.8- Solve problems involving linear functions with integer values. Write the equation and graph the resulting ordered pairs of integers on a grid. (Core Standard)

 PW: Turkey Trouble p. 367  
From Bison to Bread: The American Prairie pg. 395

6.3.9- Investigate how a change in one variable relates to a change in a second variable.

 PW: Bearly Growing p. 19  
How Many Bears Can Live in This Forest? p. 23  
Oh Deer! p. 36

## **Standard 4 Geometry**

*Students identify, describe, and classify the properties of plane and solid geometric shapes and the relationships between them.*

6.4.3- Draw quadrilaterals and triangles from given information about them.

 PW: Spider Web Geometry p. 34

6.4.6- Draw the translation (slide) and reflection (flip) of shapes.


 PWA: Watershed p. 132


## **Standard 5**

## Measurement

*Students deepen their understanding of the measurement of plane and solid shapes and use this understanding to solve problems. They calculate with temperatures and money, and choose appropriate units of measure in other areas.*

6.5.1- Select and apply appropriate standard units and tools to measure length, area, volume, weight, time, temperature, and the size of angles.


 PWA: Where Does Water Run? p. 21  
What's in the Air? p. 136

 PW: Bearly Growing p. 19  
I'm Thirsty p. 134  
No Water Off a Duck's Back p. 305

6.5.4- Understand the concept of the constant  $\pi$  as the ratio of the circumference to the diameter of a circle. Develop and use the formulas for the circumference and area of a circle. (Core Standard)

 PWA: Puddle Wonders! p. 114

6.5.5- Know common estimates of  $\pi$  (3.14, 22/7) and use these values to estimate and calculate the circumference and the area of circles. Compare with actual measurements.

 PWA: Puddle Wonders! p. 114

6.5.6- Understand the concept of significant figures and round answers to an appropriate number of significant figures.

 PWA: How Wet Is Our Planet? p. 121

6.5.10- Add, subtract, multiply, and divide with money in decimal notation. (Core Standard)


 PW: Lobster in Your Lunch Box p. 245


## Standard 6

### Data Analysis and Probability


*Students compute and analyze statistical measures for data sets. They determine theoretical and experimental probabilities and use them to make predictions about events.*


6.6.1- Organize and display single-variable data in appropriate graphs and stem-and-leaf plots, and explain which types of graphs are appropriate for various data sets.

 PWA: Eat and Glow p. 69  
What's in the Air? p. 136

 PW: Bearly Growing p. 19  
Oh Deer! p. 36  
Seed Need p. 98  
Time Lapse p. 158  
Lobster in Your Lunch Box p. 245  
World Travelers p. 330  
Turkey Trouble p. 367  
Checks and Balances p. 387

6.6.5- Use data to estimate the probability of future events.


 PWA: Eat and Glow p. 69  
What's in the Water p. 140


 PW: Bearly Growing p. 19  
Oh Deer! p. 36  
. Dropping In On Deer p. 421

## **Standard 7 Problem Solving**

*Students make decisions about how to approach problems and communicate their ideas.*

6.7.1- Analyze problems by identifying relationships, telling relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.

 PWA: Eat and Glow p. 69  
Net Gain, Net Effect p. 85  
What's in the Air? p. 136

 PW: Bearly Growing p. 19  
Bottleneck Genes p. 172  
. Turkey Trouble p. 367

6.7.4- Apply strategies and results from simpler problems to solve more complex problems.



PW: I'm Thirsty p. 134

6.7.6- Recognize the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.



PWA: Water's Going On? p. 149

6.7.7- Select and apply appropriate methods for estimating results of rational-number computations.



PW: No Water Off a Duck's Back p. 305  
World Travelers p. 330

6.7.8- Use graphing to estimate solutions and check the estimates with analytic approaches.



PW: Bearly Growing p. 19  
Oh Deer! p. 36

## 7<sup>th</sup> Grade

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### Standard 2 Computation

*Students solve problems involving integers, fractions, decimals, ratios, and percentages.*

7.2.1- Solve addition, subtraction, multiplication, and division problems that use integers, fractions, and decimals, and combinations of the four operations. (Core Standard)



PWA: How Wet Is Our Planet? p. 121  
Water's Going On? p. 149  
Alice in Waterland p. 151




PW: How Many Bears Can Live in This Forest? p. 23  
I'm Thirsty p. 134  
Checks and Balances p. 387

7.2.2- Calculate the percentage increase and decrease of a quantity. (Core Standard)




PW: Bearly Growing p. 19  
How Many Bears Can Live in This Forest? p. 23  
Lobster in Your Lunch Box p. 245


 PWA: How Wet Is Our Planet? p. 121

### **Standard 3** **Algebra and Functions**

*Students express quantitative relationships using algebraic terminology, expressions, equations, inequalities, and graphs.*

7.3.5- Solve an equation or formula with two variables for a particular variable.

 PWA: Where Does Water Run? p. 21  
Puddle Wonders! p. 114  
Watershed p. 132

 PW: No Water Off a Duck's Back p. 305

### **Standard 4** **Geometry**

*Students deepen their understanding of plane and solid geometric shapes by constructing shapes that meet given conditions and by identifying attributes of shapes.*

7.4.2- Understand that transformation such as slides, turns and flips preserve the length of segments, and that figures that result from slides, turns and flips are congruent to the original figures. (Core Standard)

 PWA Watershed p. 132

### **Standard 5** **Measurement**

*Students compare units of measure and use similarity to solve problems. They compute the perimeter, areas, and volume of common geometric objects and use the results to find measures of less regular objects.*

7.5.1- Compare lengths, areas, volumes, weights, capacities, times, and temperatures within measurement systems.

 PWA: How Wet Is Our Planet? p. 121

7.5.2- Use experimentation and modeling to visualize similarity problems. Solve problems using similarity. (Core Standard)



PW: Bearly Growing p. 19

7.5.3- Read and create drawings made to scale, construct scale models, and solve problems related to scale. (Core Standard)



PWA: Whale of a Tail p. 10  
Designing a Habitat p. 19  
Watershed p. 132



PW: Spider Web Geometry p. 34

7.5.4- Use formulas for finding the perimeter and area of basic two-dimensional shapes and the surface area and volume of basic three-dimensional shapes, including rectangles, parallelograms, trapezoids, triangles, circles, right prisms, and cylinders (Core Standard)



PWA: Where Does Water Run? p. 21  
Puddle Wonders! p. 114  
Watershed p. 132



PW: Oh Deer! p. 36  
No Water Off a Duck's Back p. 305  
World Travelers p. 330

7.5.5- Estimate and compute the area of more complex or irregular two-dimensional shapes by breaking them down into more basic shapes. (Core Standard)



PWA: Where Does Water Run? p. 21  
Puddle Wonders! p. 114

## Standard 6

### Data Analysis and Probability

*Students collect, organize, and represent data sets and identify relationships among variables within a data set. They determine probabilities and use them to make predictions about events.*

7.6.1- Analyze, interpret, and display data in appropriate bar, line, and circle graphs and stem-and-leaf plots, and justify the choice of display. (Core Standard)



PWA: Migration Headache p. 15  
Eat and Glow p. 69  
What's in the Air? p. 136

What's in the Water p. 140  
Water's Going On? p. 149  
Where Have All the Salmon Gone? p. 180



PW: Oh Deer! p. 36  
No Water Off a Duck's Back p. 305  
World Travelers p. 330

7.6.2- Make predictions from statistical data. (Core Standard)



PWA: Where Have All the Salmon Gone? p. 180



PW: Bearly Growing p. 19  
Turkey Trouble p. 367

## Standard 7

### Problem Solving

*Students make decisions about how to approach problems and communicate their ideas*

7.7.1- Analyze problems by identifying relationships, telling relevant from irrelevant information, identifying missing information, sequencing and prioritizing information and observing patterns.



PWA: Eat and Glow p. 69  
Net Gain, Net Effect p. 85  
Where Have All the Salmon Gone? p. 180



PW: Oh Deer! p. 36

7.7.5- Make and test conjectures by using inductive reasoning.



PWA: Where Have All the Salmon Gone? p. 180

7.7.9- Use graphing to estimate solutions and check the estimates with analytic approaches.



PW: No Water Off a Duck's Back p. 305

## 8<sup>th</sup> Grade

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### Standard 2 Computation

*Students compute with rational numbers expressed in a variety of forms. They solve problems involving ratios, proportions, and percentages.*

8.2.1- Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) in multi-step problems. (Core Standard)



PW: How Many Bears Can Live in This Forest? p. 23  
I'm Thirsty p. 134



PWA: How Wet Is Our Planet? p. 121  
Water's Going On? p. 149  
Alice in Waterland p. 154

## **Standard 4 Geometry**

*Students deepen their understanding of plane and solid geometric shapes and properties by constructing shapes that meet given conditions, by identifying attributes of shapes, and by applying geometric concepts to solve problems.*

8.4.4- Draw the translation (slide) rotation (turn), reflection (flip), and dilation (stretches and shrinks) of shapes.



PWA: Watershed p. 132

## **Standard 5 Measurement**

*Students convert between units of measure and use rates and scale factors to solve problems. They compute the perimeter, area, and volume of geometric objects. They investigate how perimeter, area, and volume are affected by changes of scale.*

8.5.3- Solve problems involving scale factors, area, and volume using ratio and proportion. (Core Standard)



PWA: Designing a Habitat p. 19  
Watershed p. 132

8.5.4- Use formulas for finding the perimeter and area of basic two-dimensional shapes and the surface area and volume of basic three-dimensional shapes, including rectangles, parallelograms, trapezoids, triangles, circles, prisms, cylinders, spheres, cones, and pyramids. (Core Standard)



PW: Oh Deer! p. 36  
No Water Off a Duck's Back p. 305



PWA: Where Does Water Run? p. 21  
Puddle Wonders! p. 114  
Watershed p. 132

8.5.5- Estimate and compute the area and volume of irregular two-dimensional and three-dimensional shapes by breaking the shapes down into more basic geometric objects. (Core Standard)

 PWA: Where Does Water Run? p. 21  
Puddle Wonders! p. 114

## **Standard 6**

### **Data Analysis and Probability**


*Students collect, organize, represent, and interpret relationships in data sets that have one or more variables. They determine probabilities and use them to make predictions about events.*


8.6.1- Identify claims based on statistical data and, in simple cases, evaluate the reasonableness of the claims. Design a study to investigate the claim. (Core Standard)

 PW: Turkey Trouble p. 367

 PWA: Where Have All the Salmon Gone? p. 180

8.6.4- Analyze, interpret, and display single- and two-variable data in appropriate bar, line and circle graphs, stem-and-leaf plots and box-and-whisker plots, and explain which types of display are appropriate for various data sets. (Core Standard)

 PW: Oh Deer! p. 36  
No Water Off a Duck's Back p. 305  
World Travelers p. 330

 PWA: Migration Headache p. 15  
Eat and Glow p. 69  
What's in the Air? p. 136  
What's in the Water p. 140  
Water's Going On? p. 149  
Where Have All the Salmon Gone? p. 180

## **Standard 7**

### **Problem Solving**

*Students make decisions about how to approach problems and communicate their ideas.*

8.7.1- Analyze problems by identifying relationships, telling relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.



PW: Oh Deer! p. 36



PWA: Eat and Glow p. 69

Net Gain, Net Effect p. 85

Where Have All the Salmon Gone? p. 180

8.7.5- Make and test conjectures by using inductive reasoning.



PWA: Where Have All the Salmon Gone? p. 180

8.7.9- Use graphing to estimate solutions and check the estimates with analytic approaches.



PW: No Water Off a Duck's Back p. 305