Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
INVEST | INSPIRE | INNOVATE

COURSE PACING GUIDE
INTEGRATED MATH 3
Date of Last Update: 04-March, 2019

DRAFT

Course Title:	Integrated Math 3	Course Number:	2180
Department / Grade Level:	Mathematics High School	Date:	March 4, 2019

PHILOSOPHY OF INSTRUCTION:

The Coeur d'Alene School District will challenge each student to develop and extend mathematical proficiency and literacy through a focused and coherent curriculum, highest quality mathematics teaching, and assessments that meet the learning needs of each student.

Using the Common Core Standards as a foundation, the curriculum will emphasize depth over breadth with a focus on the foundational concepts and processes of mathematics. In order to address the demands of a changing world, our district's mathematics instruction will prepare students to innovate, think critically, problem solve, communicate, and collaborate—therefore becoming inspired for future study.

SCOPE AND SEQUENCE:

Quarter 1 (9 Weeks) Sept-Oct	Quarter 2 (9 Weeks) Nov- ½ January	Quarter 3 (9 Weeks) Last ½ Jan-March	Quarter 4 (9 Weeks) April-June
● Unit 1: Data Analysis and Statistics ● Unit 2: Circumference, Area, Volume and Geometric Modeling	● Unit 3: Linear and Quadratic Functions ● Unit 4: Polynomial Functions	● Unit 5: Rational Exponents and Radical Functions ● Unit 6: Exponential Functions	● Unit 7: Introduction to Rational Functions ● Unit 8: Trigonometric Functions

Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
INVEST | INSPIRE | INNOVATE

COURSE PACING GUIDE
INTEGRATED MATH 3
Date of Last Update: 04-March, 2019

UNIT 1: DATA ANALYSIS AND STATISTICS					
Estimated Time Frame:	4 Weeks				
Enduring Understandings:					
Bold = Essential Learning Target, *Italicized = Supporting Learning Target,* * = Modeling Standards					
Learning Targets	**Idaho Content Standards**	**Key Terms**	**Primary Resources Needed**	**Assessment** (Tie to Enduring Understandings)	**Essential Learning Rationale**
1-1: I can calculate and interpret measures of central tendency, quartiles, range, and standard deviation and use these values to solve statistical problems. (Review)	S-ID.1*, S-ID.2*, S-ID.3*	Mean, median, mode, range, standard deviation, quartiles, Interquartile ranges, box and whisker plots, dot plots	Big Ideas Math 1 Book - Section 7.1-7.2	Mastery	
1-2: I can describe distributions by identifying shape, center, spread and any possible outliers. (Review)	S-ID.2*, S-ID.3*	Skewed right, skewed left, symmetric, outlier	Big Ideas Math 1 Book - Section 7.3	Mastery	
1-3: I can recognize data sets that are normally distributed and use normal distributions and z-scores to calculate probabilities.	S-ID.4*	Normal distribution, standard deviation, z-score	Big Ideas Math 3 Book - Section 10.1 - 10.2	Developmental	
1-4: I can make inferences and justify conclusions from a variety of statistical studies.	S-IC.1*, S-IC.2*, S-IC.3*, S-IC.4*, S-IC.5*, S-IC.6*	Random sample, self-selected sample, systematic sample, stratified sample, cluster sample, convenience sample, bias, unbiased, observational study, experiment, survey, control group, placebo	Big Ideas Math 3 Book - Section 10.3 - 10.6	Developmental	

Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
INVEST | INSPIRE | INNOVATE

COURSE PACING GUIDE
INTEGRATED MATH 3
Date of Last Update: 04-March, 2019

UNIT 2: CIRCUMFERENCE, AREA, VOLUME & GEOMETRIC MODELING					
Estimated Time Frame:	4 Weeks				
Enduring Understandings:					
Bold = Essential Learning Target, *Italicized = Supporting Learning Target,* * = Modeling Standards					
Learning Targets	**Idaho Content Standards**	**Key Terms**	**Resources Needed**	**Assessment** (Tie to Enduring Understandings)	**Essential Learning Rationale**
2-1: I can connect circumference of circles to arc lengths using central angles.	G-CO.1, G-C.5, G-GMD.1	circumference, arc length, radian	Big Ideas - Math 2 Book - Sections 11.1	Developmental Level	
2-2: I can connect area of circles to area of sectors using central angles.	G-C.5, G-GMD.1, G-MG.2*	Sector of a circle	Big Ideas - Math 2 Book - Sections 11.2	Mastery Level	
2-3: I can find the area, volume, and surface area of a variety of shapes and figures.	G-GMD.1, G-GMD.2, G-GMD.3*, G-GMD.4, G-MG.1*, G-MG.2*, G-MG.3*	face, edge, vertex, cross section, solid of revolution, axis of revolution, volume, density, composite solid	Big Ideas - Math 2 Book - Sections 11.3 - 11.7	Mastery Level	
2-4: I can apply the geometric concepts of area and volume to model real-world situations.	G-MG.1*, G-MG.2*, G-MG.3*, G-GMD.1, G-GMD.3*	Density, population density, perimeter, area, surface area, volume	Big Ideas Math 3 Book - Section 1.1 - 1.2	Mastery	
2-5: I can visualize the relationship between two-dimensional and three-dimensional objects.	G-GMD.1, G-GMD.3*, G-GMD.4	Cross section, solid of revolution, axis of revolution	Big Ideas Math 3 Book - Section 1.3 - 1.4	Introductory	
Common Lesson:					

Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
INVEST | INSPIRE | INNOVATE

COURSE PACING GUIDE
INTEGRATED MATH 3
Date of Last Update: 04-March, 2019

UNIT 3: LINEAR AND QUADRATIC FUNCTIONS					
Estimated Time Frame:	4 weeks				
Enduring Understandings:					
Bold = Essential Learning Target, *Italicized = Supporting Learning Target,* * = Modeling Standards					
Learning Targets	**Idaho Content Standards**	**Key Terms**	**Resources Needed**	**Assessment** (Tie to Enduring Understandings)	**Essential Learning Rationale**
3-1: I can graph linear, quadratic, and absolute value functions using parent functions and transformations.	F-BF.3, F-IF.4*, F-IF.7c*, F-IF.9, A-APR.3	Parent function, transformation, translation, reflection, vertical stretch, vertical shrink, Quadratic function, parabola, vertex, axis of symmetry, vertex form, Linear function, absolute value	Big Ideas Math 3 Book - Section 2.1, 2.2, 2.5 2.6	Mastery	
3-2: I can model real-world scenarios using linear and quadratic functions.	A-CED.2*, F-IF.6*, F-IF.9, F-BF.1a*, F-LE.2*, S-ID.6a* N-Q.2 N-Q.3		Big Ideas Math 3 Book - Section 2.3, 2.7	Mastery	
3-3: I can solve systems of linear equations in two variables graphically and algebraically.	A-CED.3*, A-REI.6 N-Q.3		Big Ideas Math 3 Book - Section 2.4	Mastery	

Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
INVEST | INSPIRE | INNOVATE

COURSE PACING GUIDE
INTEGRATED MATH 3
Date of Last Update: 04-March, 2019

UNIT 4: POLYNOMIAL FUNCTIONS					
Estimated Time Frame:	4 weeks				
Enduring Understandings:					
Bold = Essential Learning Target, *Italicized = Supporting Learning Target,* * = Modeling Standards					
Learning Targets	**Idaho Content Standards**	**Key Terms**	**Resources Needed**	**Assessment** (Tie to Enduring Understandings)	**Essential Learning Rationale**
4-1: I can graph basic polynomial functions.	F-IF.7c*, F-BF.3		Big Ideas Math 3 Book - Section 3.1	Mastery	
4-2: I can add, subtract and multiply polynomials and understand that polynomials form a closed system analogous to the integers.	A-APR.1 A-APR.4 A-APR.5	Like Terms, Identity, polynomial, closed system	Big Ideas Math 3 Book - Section 3.2	Mastery	
4-3: I can divide and factor polynomial expressions.	A-APR.2, A-APR.6	Polynomial division, synthetic division, quotient, remainder, factor	Big Ideas Math 3 Book - Section 3.3 - 3.4	Developmental	
4-4: I can solve simple polynomial equations, find zeros of simple polynomial functions, and create rough sketches of polynomials.	F-IF.4*, F-IF.7c*, A-APR.3, F-BF.3, N-CN.1, N-CN.2, N-CN.7	Factored Completely, Factor by Grouping, Quadratic Form, Repeated Solution, Roots of an Equation	Big Ideas Math 3 Book - Section 3.1 and 3.5 - 3.8	Developmental	

Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
INVEST | INSPIRE | INNOVATE

COURSE PACING GUIDE
INTEGRATED MATH 3
Date of Last Update: 04-March, 2019

UNIT 5: RATIONAL EXPONENTS AND RADICAL FUNCTIONS					
Estimated Time Frame:	4 weeks				
Enduring Understandings:					
Bold = Essential Learning Target, *Italicized = Supporting Learning Target,* * = Modeling Standards					
Learning Targets	**Idaho Content Standards**	**Key Terms**	**Resources Needed**	**Assessment** (Tie to Enduring Understandings)	**Essential Learning Rationale**
5-1: I understand how the properties of exponents extend to include rational exponents and that rational exponents can be used to represent radicals.	N-RN.1 N-RN.2	Nth root, radical, Index of a radical	Big Ideas Math 3 Book - Section 4.1	Mastery	
5-2: I can simplify a variety of basic numeric expressions involving rational exponents and radicals.	N-RN.2	Simplest form of a radical, Conjugate, Like radicals	Big Ideas Math 3 Book - Section 4.2	Mastery	
5-3: I can represent square root and cube root functions graphically.	F-IF.7b*, F-BF.3	Radical function	Big Ideas Math 3 Book - Section 4.3	Mastery	
5-4: I can solve simple radical equations algebraically and graphically and understand how extraneous solutions may arise.	A-REI.1, A-REI.2	Radical Equations Extraneous Solutions	Big Ideas Math 3 Book - Section 4.4	Developmental	
5-5: I can perform operations with functions and understand the basic concept of an inverse function.	F-BF.1b*, F-BF.4a, A-CED.4	Inverse Functions	Big Ideas Math 2 Book - Section 4.5 - 4.6	Introductory	

Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
INVEST | INSPIRE | INNOVATE

COURSE PACING GUIDE
INTEGRATED MATH 3
Date of Last Update: 04-March, 2019

UNIT 6: EXPONENTIAL FUNCTIONS					
Estimated Time Frame:	5 weeks				
Enduring Understandings:					
Bold = Essential Learning Target, *Italicized = Supporting Learning Target,* * = Modeling Standards					
Learning Targets	**Idaho Content Standards**	**Key Terms**	**Resources Needed**	**Assessment** (Tie to Enduring Understandings)	**Essential Learning Rationale**
6-1: I understand the characteristics of exponential functions and can represent exponential functions graphically.	A-SSE.3c*, F-IF.7e*, F-IF.8b, F-LE.2*, F-LE.3* F-LE.5*, F-IF.7e*, F-BF.3	Exponential function Exponential growth function Natural base e	Big Ideas Math 2 Book - Section 1.6 Big Ideas Math 3 Book - Section 5.1, 5.3	Mastery	
6-2: I understand the characteristics of logarithmic functions and can represent basic logarithmic functions graphically.	F-IF.7e*, F-BF.3	Logarithmic function	Big Ideas Math 3 Book - Section 5.2, 5.3	Developmental	
6-3: I understand the properties of logarithms and can use them to rewrite basic logarithmic expression.	A-SSE.2	Base, properties of exponents	Big Ideas Math 3 Book - Section 5.4	Introductory	
6-4: I can use logarithms to express solutions to basic exponential equations.	A-REI.1	Exponential equations, extraneous solution	Big Ideas Math 3 Book - Section 5.5	Developmental	
6-5: I can model real-world situations using exponential functions and can distinguish between linear, exponential, quadratic relationships given various representations.	A-CED.2*, F-BF.1a*, F-LE.2*, F-LE.3*, F-LE.4*	Linear, quadratic, exponential, modeling	Big Ideas Math 3 Book - Section 5.6	Developmental	
District-Wide Common Lesson:		Possible Additional Common Lessons for Building Level Teams:			

Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
INVEST | INSPIRE | INNOVATE

COURSE PACING GUIDE
INTEGRATED MATH 3
Date of Last Update: 04-March, 2019

UNIT 7: INTRODUCTION TO RATIONAL FUNCTIONS					
Estimated Time Frame:	3 Weeks				
Enduring Understandings:					
Bold = Essential Learning Target, *Italicized = Supporting Learning Target,* * = Modeling Standards					
Learning Targets	**Idaho Content Standards**	**Key Terms**	**Resources Needed**	**Assessment** (Tie to Enduring Understandings)	**Essential Learning Rationale**
7-1: I understand the characteristics of basic rational functions and can graphically represent them.	F-BF.3	Rational function, domain, range, asymptote, end behavior	Big Ideas Math 3 Book - Section 6.1, 6.2	Developmental	
7-2: I can add, subtract, multiply and divide basic rational expressions.	A-APR.6, A-APR.7,	Common denominator, least common multiple, reciprocal, rational expression	Big Ideas Math 3 Book - Section 6.3, 6.4	Developmental	
7-3: I can solve basic rational equations.	A-REI.2	Proportion, extraneous solution	Big Ideas Math 3 Book - Section 6.5	Developmental	
Common Lesson:					

Coeur d'Alene Public Schools
DIVISION OF TEACHING AND LEARNING
INVEST | INSPIRE | INNOVATE

COURSE PACING GUIDE
INTEGRATED MATH 3
Date of Last Update: 04-March, 2019

UNIT 8: TRIGONOMETRIC FUNCTIONS					
Estimated Time Frame:	5 Weeks				
Enduring Understandings:					
Bold = Essential Learning Target, *Italicized = Supporting Learning Target,* * = Modeling Standards					
Learning Targets	**Idaho Content Standards**	**Key Terms**	**Resources Needed**	**Assessment** (Tie to Enduring Understandings)	**Essential Learning Rationale**
8-1: I can use trigonometric functions with right triangles and non-right triangles to solve real-world and mathematical problems.	F-TF.8	Sine, cosine, tangent, right triangle, hypotenuse, Pythagorean theorem,	Big Ideas Math 3 Book - Section 8.1	Mastery	
8-2: I can use radians and degrees to measure angles and convert between the two units of measure.	F-TF.1	radian	Big Ideas Math 3 Book - Section 8.2	Introductory	
8-3: I use the unit circle to define the trigonometric function of any angle.	F-TF.2	Unit circle, reference angle	Big Ideas Math 3 Book - Section 8.3	Introductory	
8-4: I understand the characteristics of trigonometric functions and can represent trigonometric functions graphically. (Limited to Sine, Cosine, and Tangent Functions)	F-IF.7e*, F-BF.3, F-TF.5	Sine, cosine, amplitude, periodic function, cycle, period, midline	Big Ideas Math 3 Book - Section 8.4 - 8.6	Introductory	
Common Lesson:					