Course-at-a-Glance --- Mathematics --- Telescoped Math 7/Algebra 8

First Semester

Unit 1: 2-D and 3-D Geometry (12 lesson days, approximately 3 weeks)
Approximate dates: August 28 – September 13, 2017

1.1 I can use the ratio of a circle's circumference to its diameter to calculate pi. (7.3.1.1)
1.2 I can calculate the circumference of a circle. (7.3.1.1)
1.3 I can calculate the area of a circle. (7.3.1.1)
1.4 I can calculate the volume of a cylinder and justify its formula. (7.3.1.2)
1.5 I can calculate the surface area of a cylinder and justify its formula. (7.3.1.2)

Unit 2: Integers and Rational Numbers (28 lesson days, approximately 7 weeks)
Approximate dates: September 14 – October 26, 2017

2.1 I can locate and plot positive and negative numbers and their opposites on a number line. (7.1.1.3)
2.2 I can compare positive and negative rational numbers using <, >, ≤, ≥, =. (7.1.1.4)
2.3 I can add and subtract positive and negative rational numbers and use them to solve real world problems. (7.1.2.1, 7.1.2.2)
2.4 I can define absolute value and solve problems that use absolute value. (7.1.2.6)
2.5 I can locate and plot pairs of rational numbers (positive and negative) on a coordinate grid. (7.1.1.3)
2.6 I can graph and describe translations and reflections of figures on a coordinate grid and I can predict the coordinates of the vertices for the transformed figure. (7.3.2.4)
2.7 I can multiply and divide positive and negative rational numbers and use them to solve real-world problems. (7.1.2.1, 7.1.2.2)
2.8 I can use the correct order of operations to evaluate numerical and algebraic expressions. (7.2.3.1, 7.2.3.2, 7.2.3.3)
2.9 I can generate equivalent numerical and algebraic expressions using associative, commutative, and distributive laws. (7.2.3.1, 7.2.3.3)

Unit 3: Ratios and Proportional Reasoning (22 lesson days, approximately 5 weeks)
Approximate dates: October 27 – December 4, 2017

3.1 I can identify rational and irrational numbers, and explain the difference between them. (7.1.1.1)
3.2 I can generate equivalent representations of rational numbers and use them to solve problems. (7.1.1.2, 7.1.1.5)
3.3 I can use my knowledge of rational numbers to calculate simple and compound interest. (7.1.2.4, 7.1.2.3)
3.4 I can solve multi-step problems involving proportional relationships and explain why my solution is reasonable. (7.1.2.5, 7.2.2.2)
3.5 I can use proportional reasoning to solve an equation or problem in a variety of contexts. (7.2.2.2, 7.2.2.3)

Unit 4: Data and Probability (26 lesson days, approximately 6 weeks)
Approximate dates: December 5, 2017 – January 24, 2018

4.1 I can calculate mean, median, and range and use these quantities to make predictions or draw conclusions. (7.4.1.1)
4.2 I can describe the impact that inserting or deleting a data point has on the mean and the median of a data set. (7.4.1.2)
4.3 I can create and interpret data in frequency tables or histograms. (7.4.2.1, 7.4.3.1)
4.4 I can create and interpret data in circle graphs. (7.4.2.1)
4.5 I can use proportional reasoning to calculate arc length and sector area of circles. (7.3.1.1)
4.6 I can calculate the probability of an event as a percent, decimal, or fraction. (7.4.3.2)
4.7 I can use proportional reasoning to make predictions based on probabilities. (7.4.3.3)

Second Semester

Unit 5: Proportional and Linear Relationships (36 lesson days, approximately 8 weeks)
Approximate dates: January 29 – March 21, 2018

5.1 Given a table, graph, equation, context, or language for proportional and linear relationships, I can generate all of the other forms. (7.2.1.2, 7.2.2.1, 8.2.2.1, 8.2.4.1)
5.2 I can recognize that a function is linear if it is written in the form $f(x) = mx + b$. (8.2.1.3)
5.3 I can connect real-world or mathematical situations to equations. (7.2.2.4)
5.4 I can identify and interpret the meaning of the y-intercept and slope of a linear function in any form. (8.2.2.2)
5.5 I can show how the changes to the coefficient affect the graph of a linear function and how a change to the input variable affects the output variable. (8.2.2.3, 8.2.1.2)
5.6 I can represent arithmetic sequences as linear functions in tables, graphs, equations of the form $f(x) = mx + b$, and verbal descriptions. (8.2.1.4, 8.2.2.4)
5.7 I can write a proportional relationship as y = kx or y/x = k, and distinguish it from other relationships (including linear and inversely proportional relationships). (7.2.1.1)

Unit 6: Equations and Solving (17 lesson days, approximately 4 weeks)
Approximate dates: March 22 – April 23, 2018

6.1 I can evaluate algebraic expressions, including expressions containing radicals and absolute values, and justify the algebraic properties. (7.2.3.1, 7.2.3.3, 8.2.3.1)
6.2 I can solve multi-step equations in one variable and justify the steps by identifying the algebraic properties used. (7.2.4.1, 7.2.4.2, 8.2.4.2, 8.2.3.2)

MCA Testing ***(1 week)*** **Units 1 – 5, AND Learning Targets 6.1 and 6.2 must be taught prior to MCA testing.**
Approximate dates: April 24 – May 1, 2018

Unit 6: Equations and Solving (cont.) (14 lesson days, approximately 5 weeks)
Approximate dates: May 2 – May 21, 2018

6.3 I can solve linear inequalities and graph the solution on a number line. (8.2.4.5)
6.4 I can use linear inequalities to represent relationships in various contexts. (8.2.4.4)
6.5 I can solve equations and inequalities involving absolute values and graph the solution on a number line. (8.2.4.6)

Unit 7: Pythagorean Theorem (15 lesson days, approximately 4 weeks)
Approximate dates: May 22 – June 12, 2018

7.1 I can explain the relationship between areas of squares and square roots. (8.2.4.9)
7.2 I can classify real numbers as either rational or irrational, including sums and products of real numbers. (8.1.1.1)
7.3 I can approximate the value of irrational numbers and locate them on a number line. (8.1.1.2, 8.1.1.3)
7.4 I can use the Pythagorean Theorem to solve problems involving right triangles. (8.3.1.1)
7.5 I can demonstrate a justification for the Pythagorean Theorem. (8.3.1.3)
7.6 I can find the distance between two points on a coordinate grid by using the Pythagorean Theorem. (8.3.1.2)