GRADE 7 PACKET SUMMARIES

Packet	Summary	Max Class Hours	Standards (Primary) (Connections)
7-1 Probability	Students perform experiments and play games to become familiar with probability vocabulary, notation, and common data displays, learn the difference between theoretical and experimental probability, and explore repeating decimals.	3 lessons 13 hours	7.SP.5-8 7.NS.2
7-2 Percent and Scale	Students learn common vocabulary related to percent and solve real-life problems that include percent increases and decreases. They learn the meanings of scale and scale factor, and they interpret and make scale drawings.	3 lessons 16 hours	7.RP.2,3 7.G.1 7.NS.3, 7.EE.2,3
7-3 Proportional Relationships	Students use unit rates and unit prices, tables, double number lines, graphs, and equations to explore what it means for a relationship between quantities to be proportional, identify the constant of proportionality, and solve problems using multiple strategies, including algebra.	3 lessons 13 hours	7.RP.1,2 7.G.1 7.NS.3 7.EE.3.
7-4 Rational Number Addition and Subtraction	Students use a counter model to make sense of and develop rules for adding and subtracting integers. They use number lines to extend these rules to non-integer rational numbers.	3 lessons 13 hours	7.NS.1 7.SP.7,8
7-5 Rational Number multiplication and Division	Students use a counter model and number lines to make sense of and develop rules for multiplying rational numbers. Division rules are developed through patterns and inverse operation relationships. Products and quotients are explored in more depth, including applying the order of operations to evaluating numerical expressions and solving problems.	3 lessons 12 hours	7.NS.1,2 7.EE.3
7-6 Expressions	Students generate equivalent numerical expressions to represent geometric patterns, and generalize them using variable expressions. They use words, numbers, graphs, and equations (input-output rules) to describe visual patterns, and revisit what it means for a relationship to be proportional. A hands-on model is used to create variable expressions. This leads to simplifying, evaluating, and solving problems involving variable expressions that involve rational coefficients.	4 lessons 17 hours	7.RP.2 7.EE.1-3 7.RP.3 7.NS.3
7-7 Equations and Inequalities	Students use "mental math" techniques for solving equations and an algebra puzzle. They use balance scales and a hands-on model to solve equations, which transitions into solving equations procedurally. They solve and graph inequalities, and use inequalities to solve various problems.	4 lessons 17 hours	7.EE.1,4 7.RP.2,3 7.NS.3
7-8 Plane and Solid Figures	Students learn facts about angles and use them to write equations and solve for unknowns in diagrams. They make geometric drawings freehand, with rulers and protractors, and with technology, and explore two-dimensional cross sections that result from slicing three-dimensional figures by planes.	3 lessons 14 hours	7.G.2,3,5 7.EE.4
7-9 Length, Area, and Volume	Students will explore the meaning of pi, derive and apply the formulas for circumference and area of a circle, and extend prior knowledge about area of polygons and volume prisms to more complicated figures.	3 lessons 14 hours	7.G.4,6 7.G.3 7.RP.2,7.NS.3 7.EE.3,7.SP.7
7-10 Sampling	Students revisit the difference between theoretical and experimental probability to help highlight important aspects of statistics. They learn about populations and sampling, and use statistical measures and data displays to compare samples and make inferences about a sampling experiment.	3 lessons 13 hours	7.SP.1-4 7.SP.5,7 7.RP.3.