Lesson	Standards for an Advanced 2	Pacing
Unit 1 TRANSFORM AND CONSTRUCT GE	OMETRIC FIGURES	
Module 1: Transformations and Congruer	nce	
Lesson 1.1 Investigate Transformations	Verify experimentally the properties of rotations, reflections, and translations: Lines are taken to lines, and line segments to line segments of the same length.	2 days
	Verify experimentally the properties of rotations, reflections, and translations: Angles are taken to angles of the same measure.	
	Verify experimentally the properties of rotations, reflections, and translations: Parallel lines are taken to parallel lines.	
Lesson 1.2 Explore Translations	Verify experimentally the properties of rotations, reflections, and translations: Lines are taken to lines, and line segments to line segments of the same length.	2 days
	Verify experimentally the properties of rotations, reflections, and translations: Angles are taken to angles of the same measure.	
	Verify experimentally the properties of rotations, reflections, and translations: Parallel lines are taken to parallel lines.	
	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	
Lesson 1.3 Explore Reflections	Verify experimentally the properties of rotations, reflections, and translations: Lines are taken to lines, and line segments to line segments of the same length.	2 days
	Verify experimentally the properties of rotations, reflections, and translations: Angles are taken to angles of the same measure.	
	Verify experimentally the properties of rotations, reflections, and translations: Parallel lines are taken to parallel lines.	
	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	
Lesson 1.4 Explore Rotations	Verify experimentally the properties of rotations, reflections, and translations: Lines are taken to lines, and line segments to line segments of the same length.	2 days
	Verify experimentally the properties of rotations, reflections, and translations: Angles are taken to angles of the same measure.	
	Verify experimentally the properties of rotations, reflections, and translations: Parallel lines are taken to parallel lines.	
	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	

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	Major
	Supporting
0	Additional

In addition to the core instructional pacing below, HMH recommends the following:

2 days per year for the HMH Into Math Growth Measure powered by Math Inventory
1 day per module for the Module Opener, Are You Ready?, Module Review, and Module Test

2 days per unit for the Performance Task

Using these recommendations, the total pacing for Advanced 2 is 170 days.

Lesson	Standards for an Advanced 2	Pacing
Lesson 1.5 Understand and Recognize Congruent Figures	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	2 days
	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	
Module 2: Draw and Analyze Two-Dimens	ional Figures	
Lesson 2.1 Draw Shapes with Given Conditions	<ul> <li>Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</li> </ul>	1 day
Lesson 2.2 Draw and Construct Triangles Given Side Lengths	<ul> <li>Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</li> </ul>	2 days
Lesson 2.3 Draw and Construct Triangles Given Angle Measures	<ul> <li>Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</li> </ul>	1 day
Lesson 2.4 Draw and Analyze Shapes to Solve Problems	<ul> <li>Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</li> </ul>	1 day
Lesson 2.5 Practice Proportional Reasoning with Scale Drawings	<ul> <li>Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.</li> </ul>	2 days
Module 3: Transformations and Similarity		
Lesson 3.1 Investigate Reductions and Enlargements	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	2 days
Lesson 3.2 Explore Dilations	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	2 days
Lesson 3.3 Understand and Recognize Similar Figures	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	2 days

Lesson	Standards for an Advanced 2	Pacing
Unit 2 EQUATIONS AND INEQUALITIES IN	I ONE VARIABLE	
Module 4: Solve Linear Equations		
Lesson 4.1 Write Two-Step Equations for Situations	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	1 day
Lesson 4.2 Apply Two-Step Equations to Solve Real-World Problems	Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$ , where $p$ , $q$ , and $r$ are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.	1 day
	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.	
Lesson 4.3 Solve Multi-Step Linear	Solve linear equations in one variable.	2 days
Lquations	Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	
Lesson 4.4 Examine Special Cases	Solve linear equations in one variable.	1 day
	Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$ , $a = a$ , or $a = b$ results (where $a$ and $b$ are different numbers).	
	Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	



Lesson	Standards for an Advanced 2	Pacing
Lesson 4.5 Apply Linear Equations	Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$ , where $p$ , $q$ , and $r$ are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.	2 days
	Solve linear equations in one variable.	
	Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$ , $a = a$ , or $a = b$ results (where $a$ and $b$ are different numbers).	
	Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	
	<ul> <li>Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.</li> </ul>	
Module 5: Solve Problems Using Inequal	ities	
Lesson 5.1 Understand and Apply Properties to Solve One-Step Inequalities	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$ , where $p$ , $q$ , and $r$ are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	2 days
Lesson 5.2 Write Two-Step Inequalities for Situations	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	1 day
Lesson 5.3 Apply Two-Step Inequalities to Solve Problems	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$ , where $p$ , $q$ , and $r$ are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	2 days



Lesson	Standards for an Advanced 2	Pacing
Unit 3 SIMILARITY, SLOPE, AND LINEAR FUNCTIONS		
Module 6: Angle Relationships		
Lesson 6.1 Develop Angle Relationships for Triangles	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	2 days
Lesson 6.2 Investigate Angle-Angle Similarity	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	2 days
Lesson 6.3 Explore Parallel Lines Cut by a Transversal	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	2 days
Module 7: Proportional Relationships		
Lesson 7.1 Explain Slope with Similar Triangles	Use similar triangles to explain why the slope <i>m</i> is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at <i>b</i> .	2 days
Lesson 7.2 Derive $y = mx$	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.	1 day
	Use similar triangles to explain why the slope <i>m</i> is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at <i>b</i> .	
Lesson 7.3 Graph, Interpret, and Compare Proportional Relationships	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.	2 days
Module 8: Understand and Analyze Funct	ions	
Lesson 8.1 Understand and Graph Functions	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.	2 days
Lesson 8.2 Derive and Interpret y = mx + b	<ul> <li>Use similar triangles to explain why the slope <i>m</i> is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.</li> <li>Interpret the equation y = mx + b as defining a linear function, whose</li> </ul>	2 days
	graph is a straight line; give examples of functions that are not linear.	



Lesson	Standards for an Advanced 2	Pacing
Lesson 8.3 Interpret Rate of Change and Initial Value	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two ( <i>x</i> , <i>y</i> ) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	2 days
Lesson 8.4 Construct and Compare Functions	<ul> <li>Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</li> <li>Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (<i>x</i>, <i>y</i>) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.</li> </ul>	2 days
Lesson 8.5 Describe and Sketch Nonlinear Functions	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	2 days
Module 9: Systems of Linear Equations		
Lesson 9.1 Represent Systems by Graphing	Analyze and solve pairs of simultaneous linear equations.	1 day
Lesson 9.2 Solve Systems by Graphing	Analyze and solve pairs of simultaneous linear equations.	1 day
	Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	
Lesson 9.3 Solve Systems by Substitution	Analyze and solve pairs of simultaneous linear equations.	1 day
	Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.	
Lesson 9.4 Solve Systems by Elimination	Analyze and solve pairs of simultaneous linear equations.	2 days
	Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.	
Lesson 9.5 Examine Special Systems	Analyze and solve pairs of simultaneous linear equations.	2 days
	Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.	
Lesson 9.6 Apply Systems of Equations	Analyze and solve pairs of simultaneous linear equations.	2 days
	Solve real-world and mathematical problems leading to two linear equations in two variables.	

"One day" is equal to one instructional period in a traditional schedule and would need to be adjusted to account for longer class periods in a block schedule.

Build Conceptual Understanding Connect Concepts and Skills Apply and Practice

Lesson	Standards for an Advanced 2	Pacing
Unit 4 DATA ANALYSIS AND SAMPLING		
Module 10: Scatter Plots		
Lesson 10.1 Construct Scatter Plots and Examine Association	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	2 days
Lesson 10.2 Draw and Analyze Trend Lines	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	2 days
Lesson 10.3 Interpret Linear Data in Context	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.	1 day
	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two ( <i>x</i> , <i>y</i> ) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	
Module 11: Proportional Reasoning with	a Samples	
Lesson 11.1 Understand Representative Samples	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.	1 day
Lesson 11.2 Make Inferences from a Random Sample	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.	2 days
Lesson 11.3 Make Inferences from Repeated Random Samples	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.	1 day

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Lesson	Standards for an Advanced 2	Pacing
Module 12: Use Statistics and Graphs to C	Compare Data	
Lesson 12.1 Compare Center and Spread of Data Displayed in Dot Plots	<ul> <li>Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.</li> <li>Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about</li> </ul>	1 day
	two populations.	
Lesson 12.2 Compare Center and Spread of Data Displayed in Box Plots	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.	1 day
	<ul> <li>Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.</li> </ul>	
Lesson 12.3 Compare Means Using Mean Absolute Deviation and Repeated Sampling	<ul> <li>Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.</li> </ul>	2 days
	<ul> <li>Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.</li> </ul>	
Module 13: Two-Way Tables		
Lesson 13.1 Construct and Interpret Two-Way Frequency Tables	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.	2 days
Lesson 13.2 Analyze and Interpret Two-Way Relative Frequency Tables	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.	2 days

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Build Conceptual Understanding Connect Concepts and Skills Apply and Practice

Lesson	Standards for an Advanced 2	Pacing
Unit 5 APPLICATIONS OF REAL NUMBER	S AND EXPONENTS	
Module 14: Real Numbers		
Lesson 14.1 Understand Rational and Irrational Numbers	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	1 day
Lesson 14.2 Investigate Roots	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$ , where $p$ is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.	2 days
Lesson 14.3 Order Real Numbers	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\pi^2$ ).	2 days
Module 15: The Pythagorean Theorem		
Lesson 15.1 Prove the Pythagorean Theorem and Its Converse	<ul> <li>Explain a proof of the Pythagorean Theorem and its converse.</li> <li>Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.</li> </ul>	2 days
Lesson 15.2 Apply the Pythagorean Theorem	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	2 days
Lesson 15.3 Apply the Pythagorean Theorem in the Coordinate Plane	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	1 day
Module 16: Exponents and Scientific Not	ation	
Lesson 16.1 Know and Apply Properties of Exponents	Know and apply the properties of integer exponents to generate equivalent numerical expressions.	2 days
Lesson 16.2 Understand Scientific Notation	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.	2 days
Lesson 16.3 Compute with Scientific Notation	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	1 day



Lesson	Standards for an Advanced 2	Pacing
Unit 6 AREA AND VOLUME		
Module 17: Analyze Figures to Find Circu	mference and Area	
Lesson 17.1 Derive and Apply Formulas for Circumference	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	1 day
	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.	
Lesson 17.2 Derive and Apply a Formula for the Area of a Circle	C Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	1 day
	Solve multi-step real-life and mathematical problems posed with positive rational numbers	
Lesson 17.3 Areas of Composite Figures	<ul> <li>Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</li> </ul>	1 day
	Solve multi-step real-life and mathematical problems posed with positive rational numbers	
Module 18: Cross Sections, Surface Area	and Volume	
Lesson 18.1 Describe and Analyze Cross Sections of Solids	O Describe the two-dimensional figures that result from slicing three- dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	1 day
Lesson 18.2 Derive and Apply Formulas for Surface Areas of Cubes and Right Prisms	<ul> <li>Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</li> </ul>	1 day
	Solve multi-step real-life and mathematical problems posed with positive rational numbers	
Lesson 18.3 Derive and Apply a Formula for the Volume of a Right Prism	<ul> <li>Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</li> </ul>	1 day
	Solve multi-step real-life and mathematical problems posed with positive rational numbers	
Lesson 18.4 Find Volume of Cylinders	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	1 day
	Solve multi-step real-life and mathematical problems posed with positive rational numbers	

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Lesson	Standards for an Advanced 2	Pacing
Module 18: Cross Sections, Surface Area,	and Volume	
Lesson 18.5 Find Volume of Cones and Spheres	<ul> <li>Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.</li> <li>Solve multi-step real-life and mathematical problems peced with</li> </ul>	2 days
	positive rational numbers	
Lesson 18.6 Solve Multi-Step Problems with Surface Area and Volume	<ul> <li>Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</li> </ul>	2 days
	• Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	
	Solve multi-step real-life and mathematical problems posed with positive rational numbers	
Unit 7 PROBABILITY		
Module 19: Understand and Apply Experi	mental Probability	
Lesson 19.1 Understand Probability of an Event	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	1 day
Lesson 19.2 Find Experimental Probability of Simple Events	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	2 days
	Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	
Lesson 19.3 Find Experimental Probability of Compound Events	Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.	2 days
	Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.	
	Design and use a simulation to generate frequencies for compound events.	
Lesson 19.4 Use Experimental Probability and Proportional Reasoning to Make Predictions	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	1 day
	Solve multi-step real-life and mathematical problems posed with positive rational numbers	



Lesson	Standards for an Advanced 2	Pacing
Module 20: Understand and Apply Theoretical Probability		
Lesson 20.1 Find Theoretical Probability of Simple Events	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	2 days
	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.	
	Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.	
Lesson 20.2 Find Theoretical Probability of Compound Events	Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.	2 days
	Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.	
Lesson 20.3 Use Theoretical Probability and Proportional Reasoning to Make Predictions	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	1 day
	Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.	
	Solve multi-step real-life and mathematical problems posed with positive rational numbers	
Lesson 20.4 Conduct Simulations	Design and use a simulation to generate frequencies for compound events.	1 day