2018 - 2019 Grade 8 Mathematics Scope and Sequence

Quarter 1		
First Week Problem Solving Tasks/Older Week of Inspirational Math Activities (see Youcubed)	SMPs: all	**# Days:** 5 8/27 – 8/31
Cluster # 1: Reasoning About Similarity and Transformations		
Concepts to Integrate - apply all to real-world application contexts: ● Understand congruence and similarity using physical models, transparencies, or geometry software.		
Domain/Standard: NC.8.G.2, 3, 4	**SMPs:** 2, 3, 5, 6, 7	**# Days:** 19 9/4 - 9/28
Cluster # 2: Reasoning About Equations and Angles		
Concepts to Integrate - apply all to real-world application contexts: ● Analyze and solve linear equations and inequalities. ● Analyze angle relationships.		
Domain/Standard: NC.8.EE.7, NC.8.G.5	**SMPs:** 2, 3, 4, 5, 6, 7	**# Days:** 15 10/1 - 10/19
Review / NC Check-In #1 / Extensions	**# Days:** 5 10/22 - 10/26	**Total Days Quarter:** 44

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Quarter 2
Cluster # 3: Functional Reasoning and Systems of Equations

Concepts to Integrate - apply all to real-world application contexts:
- Define and evaluate functions.
- Use functions to model relationships between quantities.
- Analyze and solve pairs of simultaneous linear equations.

Domain/Standard: NC.8.F.1, 3, 4, NC.EE.8	SMPs: 1, 2, 4, 5, 6, 7, 8	**# Days:** 41 10/31 - 1/11
Review / NC Check-In #2 / Extensions	**# Days:** 5 1/14 - 1/18	**Total Days** **Quarter:** 46

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Quarter 3

Cluster #4: Comparing Properties of Linear Functions & Analyzing Functional Relationships

Concepts to Integrate - apply all to real-world application contexts:
- Compare properties of two linear functions represented in a different way.
- Qualitatively analyze the functional relationship between two quantities.

Domain/Standard: NC.8.F.2, 5	SMPs: 1, 2, 3, 4, 7	# Days: 13 1/23 - 2/8

Cluster #5: Statistical Reasoning

Concepts to Integrate - apply all to real-world application contexts:
- Investigate patterns of association in bivariate data.

Domain/Standard: NC.8.SP.1, 2, 3, 4	SMPs: 1, 4, 8	# Days: 15 2/11 - 3/1

Cluster #6: Reasoning with Real Numbers

Concepts to Integrate - apply all to real-world application contexts:
- Know that there are numbers that are not rational, and approximate them by rational numbers.
- Use square root and cube root symbols.

Domain/Standard: NC.8.NS.1, 2, NC.8.EE.2	SMPs: 3, 5, 6, 7, 8	# Days: 15 3/4 - 3/22

Review / NC Check-In #3 / Extensions	# Days: 4 3/25 - 3/28	Total Days Quarter: 47

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Quarter 4		
Cluster #7: Pythagorean Theorem and Volume		
Concepts to Integrate - apply all to real-world application contexts: ● Understand and apply the Pythagorean Theorem. ● Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.		
Domain/Standard: NC.8.G.6, 7, 8, 9	**SMPs:** 1, 3, 4, 7, 8	**# Days:** 15 4/1 - 4/26
Cluster #8: Reasoning with Exponents and Scientific Notation		
Concepts to Integrate - apply all to real-world application contexts: ● Work with radicals and integer exponents.		
Domain/Standard: NC.8.EE.1, 3, 4	**SMPs:** 3, 5, 6, 7, 8	**# Days:** 10 4/29 - 5/10
Review / Ready EOG / Extensions	**# Days:** 18 5/13 - 6/6	**Total Days Quarter:** 43

Standards for Mathematical Practice	
1. Make sense of problems and persevere in solving them.	5. Use appropriate tools strategically.
2. Reason abstractly and quantitatively.	6. Attend to precision.
3. Construct viable arguments and critique reasoning of others.	7. Look for and make use of structure.
4. Model with mathematics	8. Look for and express regularity in repeated reasoning.

Formative & summative assessments should be embedded throughout each quarter.
Standards are listed numerically within a cluster, **not in a suggested teaching order.**