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Standards-Based Assessment + Instruction

PROBLEM SOLVING FOR THE 21ST CENTURY

BUILT FOR THE NYS NEXT GENERATION LEARNING STANDARDS

Amplify Demos Math New York

Grade 8

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1. Login to Exemplars Library: library.exemplars.com with your school e-mail and password

2. Select the Grade 8 Unit you are working on:

- Unit 1: Rigid Transformations and Congruence
- Unit 2: Dilations, Similarity, and Slope
- Unit 3: Proportional and Linear Relationships
- Unit 4: Linear Equations and Linear Systems
- Unit 5: Functions and Volume
- Unit 6: Associations in Data
- Unit 7: Exponents and Scientific Notation
- Unit 8: Pythagorean Theorem and Irrational Numbers

3. Once you are in the correct Unit, click on the task name, which is directly linked to the Exemplars Library where you can download a printer-friendly PDF and lesson planning sheet for the corresponding task.

** Note: You must be logged into the Exemplars Library to access the tasks in this document.

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Amplify Demos Math NY: Grade 8

Unit 1: Rigid Transformations and Congruence

Sub-Unit	NYS Next Gen. Standard	Exemplars Tasks
Transformations	NY-8.G.A.1 NY-8.G.A.3	The standards of focus in this unit do not have any aligned tasks in the Exemplars Library because the standards cannot be assessed through problem solving. The standards are too narrowly defined to assess at DOK3. **Depth-of-Knowledge Level 3 (Strategic Thinking)** requires reasoning, planning, using evidence, and a higher level of thinking than the previous two levels. In most instances, requiring students to explain their thinking is a Level 3. Activities that require students to make conjectures are also at this level. The cognitive demands at Level 3 are complex and abstract. The complexity does not result from the fact that there are multiple answers, a possibility for both Levels 1 and 2, but because the task requires more demanding reasoning. An activity, however, that has more than one possible answer and requires students to justify the response they give would most likely be a Level 3. Other Level 3 activities include drawing conclusions from observations; citing evidence and developing a logical argument for concepts; explaining phenomena in terms of concepts; and deciding which concepts to apply in order to solve a complex problem. Depth-of-Knowledge definition per Norman L. Webb & others, Web Alignment Tool (WAT) Training Manual, University of Wisconsin-Madison and Wisconsin Center for Education Research, 2005, page 45. Accessed June 2012. https://watv2.wceruw.org/
Defining Congruence	NY-8.G.A.1 NY-8.G.A.2	
Applying Congruence	NY-8.G.A.1 NY-8.G.A.5	

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Unit 2: Dilations, Similarity, and Slope

Sub-Unit	NYS Next Gen. Standard	Exemplars Tasks
Dilations	NY-8.G.A.3	The standards of focus in this unit do not have any aligned tasks in the Exemplars Library because the standards cannot be assessed through problem solving. The standards are too narrowly defined to assess at DOK3. **Depth-of-Knowledge Level 3 (Strategic Thinking)** requires reasoning, planning, using evidence, and a higher level of thinking than the previous two levels. In most instances, requiring students to explain their thinking is a Level 3. Activities that require students to make conjectures are also at this level. The cognitive demands at Level 3 are complex and abstract. The complexity does not result from the fact that there are multiple answers, a possibility for both Levels 1 and 2, but because the task requires more demanding reasoning. An activity, however, that has more than one possible answer and requires students to justify the response they give would most likely be a Level 3. Other Level 3 activities include drawing conclusions from observations; citing evidence and developing a logical argument for concepts; explaining phenomena in terms of concepts; and deciding which concepts to apply in order to solve a complex problem. Depth-of-Knowledge definition per Norman L. Webb & others, Web Alignment Tool (WAT) Training Manual, University of Wisconsin-Madison and Wisconsin Center for Education Research, 2005, page 45. Accessed June 2012. https://watv2.wceruw.org/
Similarity	NY-8.G.A.2 NY-8.G.A.4 NY-8.G.A.5	
Slope	NY-8.EE.B.6 NY-8.G.A.5	

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Unit 3: Proportional and Linear Relationships

Sub-Unit	NYS Next Gen. Standard	Exemplars Tasks
Proportional Relationships	NY-8.EE.B.5	On Target
Linear Relationships	NY-8.EE.B.5	Race Day Cafeteria Crew Tree Growth (Summative Assessment)

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Unit 4: Linear Equations and Linear Systems

Sub-Unit	NYS Next Gen. Standard	Exemplars Tasks
Solving Linear Equations	NY-8.EE.C.7	Sweet Somethings Kathryn's Capacity Super Savings So Much Coin Icing on the Cake (Summative Assessment)
Systems of Linear Equations	NY-8.EE.C.8	Party Time Head Start Dance-a-Thon DJ The Farmer's Wife Making Squares T-Shirt Fundraiser (Summative Assessment)

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Unit 5: Functions and Volume

Sub-Unit	NYS Next Gen. Standard	Exemplars Tasks
Representing and Interpreting Functions	NY-8.F.B.5	Running Late for School Possible Profits (Summative Assessment)
Linear Functions and Rates of Change	NY-8.F.A.2 NY-8.F.B.4	Speed-Reading Contest Okay Zoomer The Tortoises' Hair (Summative Assessment) Table Hopping Fashion Plus! Commission Bridges Perplexing Polygon Problem Aw, Nuts! Losing Charge Alien Creature Out of Control (Summative Assessment)
Cylinders, Cones and Spheres	NY-8.G.C.9	The Mystery of the Broken Cones Growing Around in Circles The Crow and the Pitcher 3 Little Pig Builders April Fools' Day Popcorn Sale (Summative Assessment)

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Unit 6: Associations in Data

Sub-Unit	NYS Next Gen. Standard	Exemplars Tasks
Associations in Numerical Data	NY-8.SP.A.3	Scattered Scores Snow Cone Sales (Summative Assessment)
Associations in Categorical Data	NY-8.SP.A.3	Fair Weather Fans

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Unit 7: Exponents and Scientific Notation

Sub-Unit	NYS Next Gen. Standard	Exemplars Tasks
Exponent Review	NY-8.EE.A.1	The standards of focus in this unit do not have any aligned tasks in the Exemplars Library because the standards cannot be assessed through problem solving. The standards are too narrowly defined to assess at DOK3. **Depth-of-Knowledge Level 3 (Strategic Thinking)** requires reasoning, planning, using evidence, and a higher level of thinking than the previous two levels. In most instances, requiring students to explain their thinking is a Level 3. Activities that require students to make conjectures are also at this level. The cognitive demands at Level 3 are complex and abstract. The complexity does not result from the fact that there are multiple answers, a possibility for both Levels 1 and 2, but because the task requires more demanding reasoning. An activity, however, that has more than one possible answer and requires students to justify the response they give would most likely be a Level 3. Other Level 3 activities include drawing conclusions from observations; citing evidence and developing a logical argument for concepts; explaining phenomena in terms of concepts; and deciding which concepts to apply in order to solve a complex problem. Depth-of-Knowledge definition per Norman L. Webb & others, Web Alignment Tool (WAT) Training Manual, University of Wisconsin-Madison and Wisconsin Center for Education Research, 2005, page 45. Accessed June 2012. https://watv2.wceruw.org/
Exponent Rules	NY-8.EE.A.1	
Scientific Notation	NY-8.EE.A.3 NY-8.EE.A.4	

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Unit 8: Pythagorean Theorem and Irrational Numbers

Sub-Unit	NYS Next Gen. Standard	Exemplars Tasks
The Pythagorean Theorem	NY-8.G.B.6 NY-8.G.B.7 NY-8.G.B.8	Proving Pythagoras Thinking Inside the Box Square Farms Across the Canyon Anchors Away The Sunny Side Stage Presence (Summative Assessment) Oceans Away If a Bear Walks Into the Woods Scary Reunion (Summative Assessment)
Decimal Representation of Rational and Irrational Numbers	NY-8.NS.A.1	Continue with tasks from Unit 8