



Standards-Based Assessment + Instruction

PROBLEM SOLVING
FOR THE | **21ST CENTURY**

BUILT FOR THE
COMMON CORE

Illustrative Math Alignments
Grade 8

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 Introducing Slope](#)
 - [Unit 3: 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](#)
 - [Unit 9: Putting it All Together](#)
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.
4. [Looking for ideas on how to find time to integrate Exemplars tasks into your IM Curriculum? We've got you covered!](#)

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

Illustrative Math: Grade 8

Unit 1: Rigid Transformations and Congruence
 Lessons 1-17

Rigid Transformations (Lessons 1-6)	Properties of Rigid Transformations (Lessons 7-10)	Congruence (Lessons 11-13)	Angles in a Triangle (Lessons 14-16)	Let's Put It to Work (Lesson 17)
8.G.A.1 8.G.A.3	8.G.A.1	8.G.A.1 8.G.A.2	8.G.A.1 8.G.A.5	8.G.A.1 8.G.A.2 8.G.A.5

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/>

Illustrative Math: Grade 8

Unit 2: Dilations, Similarity, and Introducing Slope
 Lessons 1-13

Dilations (Lessons 1-5) 8.G.A.3	Similarity (Lessons 6-9) 8.G.A.2 8.G.A.4 8.G.A.5	Slope (Lessons 10-12) 8.EE.B.6 8.G.A.5	Let's Put It to Work (Lesson 13) 8.G.A.4 8.G.A.5
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Unit 3: Linear Relationships
 Lessons 1-14 Par

Proportional Relationships (Lessons 1-4) 8.EE.B.5	Representing Linear Relationships (Lessons 5-8) 8.EE.B.5 8.EE.B.6	Finding Slopes (Lessons 9-11) 8.EE.B.6	Linear Equations (Lessons 12-13) 8.EE.C.8.a	Let's Put it to Work (Lesson 14) 8.EE.B.6 8.EE.C.8.a
	Race Day	Continue with task from Unit 3.		On Target
	Cafeteria Crew			
	Summative Assessment Task: Tree Growth			

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Unit 4: Linear Equations and Linear Systems
Lessons 1-16

Puzzle Problems (Lesson 1) 8.EE.C.7	Linear Equations in One Variable (Lesson 2-9) 8.EE.C.7	Systems of Linear Equations (Lesson 10-15) 8.EE.C.8	Let's Put It to Work (Lesson 16) 8.EE.C.8.c
Continue with tasks from Unit 3.	Sweet Somethings	Party Time	Continue with tasks from Unit 4.
	Kathryn's Capacity	Head Start	
	Super Savings	Dance-a-Thon DJ	
	So Much Coin	The Farmer's Wife	
	Summative Assessment Task: Icing on the Cake	Making Squares	
		Summative Assessment Task: T-Shirt Fundraiser	

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 Unit 5: Functions and Volume
 Lessons 1-10

Inputs and Outputs (Lessons 1-2) 8.F.A.1	Representing and Interpreting Functions (Lesson 3-7) 8.F.A.2 8.F.A.3 8.F.B.4 8.F.A.5	Linear Functions and Rates of Change (Lesson 8-10) 8.F.A.2 8.F.A.3 8.F.B.4 8.F.A.5
Continue with tasks from Unit 3 & 4	Running Late for School!	Speed-Reading Contest
	Possible Profits	Okay Zoomer
		Summative Assessment Task: The Tortoises' Hair
		Table Hopping
		Fashion Plus! Commission
		Bridges
		Perplexing Polygon Problem
		Aw, Nuts!
		Losing Charge
		Summative Assessment Task: Alien Creature Out of Control!

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Unit 5: Functions and Volume
Lessons 11-22

Cylinders and Cones (Lessons 11-16) 8.G.C.9	Dimensions and Spheres (Lesson 17-21) 8.G.C.9	Let's Put It to Work (Lesson 22) 8.G.C.9
The Mystery of the Broken Cones	The Crow and the Pitcher	Continue with tasks from Unit 5
Growing Around in Circles	3 Little Pig Builders	
	April Fools' Day	
	Summative Assessment Task: Popcorn Sale	

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Unit 6: Associations in Data

Lessons 1-11

<p>Does this Predict That? (Lessons 1-2) 8.S.P.A.1</p>	<p>Associations in Numerical Data (Lessons 3-8) 8.S.P.A.1 8.S.P.A.2 8.S.P.A.3</p>	<p>Associations in Categorical Data (Lessons 9-10) 8.S.P.A.4</p>	<p>Let's Put It to Work (Lesson 11) 8.S.P.A</p>
<p>Continue with tasks from Unit 5.</p>	<p>Scattered Scores</p>	<p>The Country Mouse and City Mouse</p>	<p>Fair Weather Fans</p>
	<p>Summative Assessment Task: Snow Cone Sales</p>	<p>Summative Assessment Task: Petunia's Party Plan</p>	

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Unit 7: Exponents and Scientific Notation
 Lessons 1-16

Exponent Review
 (Lesson 1)
 8.EE.A.1

Exponent Rules
 (Lessons 2-8)
 8.EE.A.1

Scientific Notation
 (Lessons 9-15)
 8.EE.A.3
 8.EE.A.4

Let's Put It to Work
 (Lesson 16)
 8.EE.A.3
 8.EE.A.4

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Unit 8: Pythagorean Theorem and Irrational Numbers
 Lessons 1-16

Side Lengths and Areas of Squares (Lessons 1-5) 8.EE.A.2 8.NS.A.2	The Pythagorean Theorem (Lessons 6-11) 8.G.B.6 8.G.B.7 8.G.B.8	Side Lengths and Volumes of Cubes (Lessons 12-13) 8.EE.A.2 8.NS.A.2	Decimal Representation of Rational and Irrational Numbers (Lessons 14-15) 8.NS.A.1	Let's Put it to Work (Lesson 16) 8.G.B.7
	Proving Pythagoras	Continue with tasks from Unit 8		
	Thinking inside the Box			
	Square Farms			
	Across the Canyon			
	Anchors Away			
	The Sunny Side			
	Summative Assessment Task: Stage Presence			
	Oceans Away			
	If a Bear Walks Into the Woods			
	Summative Assessment Task: Scary Reunion			

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Unit 9: Putting It All Together
Lessons 1-6

Tessellations
(Lessons 1-4)
8.G.A.5

The Weather
(Lessons 4-6)
8.F.A.1
8.F.B
8.SPA

Continue with tasks from Unit 5 & 6

Integrating Exemplars Tasks into Illustrative Mathematics

When using a high-quality instructional resource like *Illustrative Mathematics*, it can initially feel overwhelming to determine how and when to incorporate opportunities for students to extend their learning—especially through performance tasks from *Exemplars*. There is no single “right” way to integrate *Exemplars* tasks into the *Illustrative Mathematics* resource.

Many factors will influence your approach, including:

- The amount of time available for math instruction and assessment
- The goals of the unit, section, or lesson, and
- Your students’ backgrounds, knowledge, and prior experiences.

General Considerations

If your math instructional block exceeds 60 minutes, you may have more flexibility to incorporate an Exemplars task that aligns with the current lesson, section, or unit goals—or that reinforces a previously taught concept.

If your instructional time is 60 minutes or less, consider the following strategies:

- **Build in additional lesson days** that focus solely on an Exemplars task. Since the IM pacing guide for Grade 8, for instance, recommends 142–152 instructional days (out of a typical 180-day school year), the remaining days can be distributed throughout units to make space for performance tasks.
- **Omit optional lessons** within IM to create room for deeper exploration using Exemplars tasks.
- **Substitute the final unit, “Putting It All Together,”** with Exemplars tasks. In Grade 8, this could provide up to 6 additional days that can be redistributed across the school year.

Embedding Exemplars Tasks into Daily Instruction

You might also choose to substitute one or more activities within a lesson with an Exemplars problem-solving task—especially if it aligns closely with the lesson’s learning goal. *(Follow below for suggestions for a Grade 8 unit)*

Other flexible options for using Exemplars tasks include:

- Alongside Center Activities and Practice Problems
- As a homework opportunity
- In place of a Section Checkpoint for formative assessment
- Alongside or in place of a Unit Assessment for summative purposes

Grade 8 Lesson Specific Ideas

The following are possible opportunities to substitute one or more Illustrative Mathematics activities with an Exemplars Task. It is important to consider the lesson goals and what experiences your students will most benefit from.

Unit 3: Linear Relationships

Lesson	Considerations for Activities to be Substituted	Exemplars Task Options
7	Activity 1-Which Holds More? Activity 2-Rising Water Levels Activity 3-Telling Stories	Race Day Cafeteria Crew Summative Task: Tree Growth
8	Activity 2-Increased Savings	Race Day Cafeteria Crew Summative Task: Tree Growth

Lesson	Considerations for Activities to be Substituted	Exemplars Task Options
11	Activity 2-Making Designs	Race Day Cafeteria Crew Summative Task: Tree Growth
15	Activity 2-Five Savings Accounts Activity 3-Fabulous Fish	On Target

Exemplars performance tasks can extend students' learning seamlessly within the *Illustrative Mathematics* resource because in addition to their alignment to the Common Core standards, they share a focus for developing deep conceptual understanding along with a balance of procedural concepts and application to real-world problems. To learn more about how these resources work together, check out our Case Study [here](#).