



# Instructional Materials for English Language Learners Math for Grades 6-8

May 2019



# Introduction

The joint procurement initiative, developed by the Council of the Great City Schools and executed under the auspices of the Los Angeles Unified School District (LAUSD), was a multi-year process to harness the purchasing power of the nation's largest urban school districts to equip teachers with *high-quality, standards-based instructional materials for mathematics that meet the language needs of English Learners*. Through this project, several choices for *math instructional materials for Grades 6 through 8* were approved.

On February 19, 2019, the LAUSD Board of Education approved the contracts to provide instructional materials for middle school mathematics that meet the needs of English Learners. The *Request for Proposal* document and related addenda are available at [www.cgcs.org/domain/266](http://www.cgcs.org/domain/266).

The approved contracts offer instructional materials and corresponding *professional development* to support language development as well as college- and career-readiness through mathematics content that incorporates the following *key considerations* identified by the Council of the Great City Schools: rigorous tasks, productive struggle, multiple modes and representations, academic language and conversations, and strategic scaffolding.

School districts *in the continental United States* can use these contracts to purchase materials, as allowed by applicable laws and policies. (Section 28, in each of the contracts, provides express provision for the use of the contract by school districts other than the LAUSD to purchase materials.)

## Publisher and Product Information

### Curriculum Associates, LLC

LAUSD Vendor No.: 1000000184  
Contract No.: 4400006090

#### Products Included

- Ready Math Textbook
- Ready Math Textbook Teacher Guide
- i-Ready Instruction
- Materials in English and Spanish

#### Contacts

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#### Website:

[www2.curriculumassociates.com/products/subjects.aspx?topic=CMO](http://www2.curriculumassociates.com/products/subjects.aspx?topic=CMO)

### Imagine Learning, Inc.

LAUSD Vendor No.: 1000003998  
Contract No.: 4400006091

#### Products Included

- Imagine Math
- Math Performance Task Blackline Master (upper EL)
- Math Performance Task Blackline Master (MS)
- Student Journals Printed (consumable)
- Materials in English and Spanish

#### Contact

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[www.imaginelearning.com/programs/math](http://www.imaginelearning.com/programs/math)

### Open Up Resources\*

LAUSD Vendor No.: 1000015030  
Contract No.: 4400006039

#### Products Included

- Open Up Resources 6 - 8 Math
- Open Up Resources 6 - 8 Math, TE
- Materials in English and Spanish

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*\*This product was developed by Open Up Resources and Illustrative Mathematics. Professional development and further updates to products covered by this contract will be provided by Open Up Resources.*

## Ready Mathematics, Grades 6-8 ©2020

Teacher support provided at every lesson in the Teacher Resource Book help facilitate classroom discussion.

Language routines, found in the Teacher Resource Book, enhance the overall Think-Share-Compare discourse routine and suggest an overall approach to teaching problems.



### Think-Share-Compare Routine

Engages students in solving problems and discussing their work, first with partners, then with the whole class. Teachers select from the Step-by-Step questions in the lessons to guide discussion during the Compare portion of the routine.

### Think-Share-Compare Routine

- 1. Make Sense of the Problem**  
Read and understand the problem or question. Think about the key information.
- 2. Solve and Support Your Thinking**  
Include pictures, models, and/or explanations in your solutions. If you have time, show another way to solve it.
- 3. Discuss**  
Explain your thinking to a partner. Discuss how your strategies are alike and different.
- 4. Compare**  
Compare your strategies with the class, including the strategies in the Ready book.
- 5. Connect and Reflect**  
Complete and discuss the Connect 27 questions.
- 6. Apply**  
Apply what you have learned to a new problem. Be sure to support your answer.

### Integrating Language and Mathematics

Outlines language routines that can be used within any part of the Think-Share-Compare Routine. They offer consistent, repeatable structures to understand language and express ideas so students can focus on the mathematics they are learning. For example, "In your own words" is a routine that allows students to restate an idea they read or heard in their own words. It requires students to clarify understanding and use clear, specific language.

### Integrating Language and Mathematics

Ready® Mathematics integrates language and mathematics instruction to support all students in learning. These research-based language routines provide powerful language-based activities through which students access, create, and express their growing mathematical understanding.

#### Three Reads

**What It Is:** A flow may involve making sense of word problems or mathematical tasks.

**How to Use It:** The task is read three times, each time with a different purpose.

- What is the task about?
- What question or information are important? How are they related?

The class comes to agreement on answers to each question.

While initially teacher-led, over time students can use these Reads independently. Three Reads may be done orally, or students may respond in writing first, before class discussion.

**What to Share:** When helping students make sense of a task, a question for language proficiency focus is viable.

- rephrases rather than the teacher reading the task;
- questions reading the task directly or indirectly for some meanings;
- asking or prompting students;
- having one partner read to the other;
- calling on several students or groups to respond to each question.

**Why It Matters:** Students make sense of the task by making personal connections to problem situations, connecting with questions or pieces of information independently.

**What to Share:** Students make sense of the task by making personal connections to problem situations, connecting with questions or pieces of information independently.

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Students communicate information, ideas, and concepts necessary for academic success, and they are given opportunities to listen, speak, read, and write at the appropriate level of language proficiency.

The Student Instruction Book gives students the opportunity to review mathematical and academic vocabulary and to access and build on familiar concepts.

### English Language Development

Offers suggestions for scaffolding language use during the lesson so students at different levels of English proficiency can access the mathematics and express their own ideas.

#### ELL English Language Development

Prepare for Day 1: Use with Think It Through

ELP Levels 1-2	ELP Levels 3-4	ELP Levels 4-5
<p><b>Reading/Spoken:</b> Read aloud or paraphrase Think It Through. Display the terms vary, variability, variable, and explain that they are related. Use those sentences to guide discussion.</p> <p>• "Vary" means "to change" or "to differ."</p> <p>• A <b>variable</b> is a symbol that represents a value. It is usually represented by a letter.</p> <p>• <b>variability</b> means "change" or "amount of change." It makes a statistical question different from a non-statistical question.</p> <p>• Statistical questions have answers that can vary. When we ask a statistical question, we expect a <b>variability</b> of answers.</p>	<p>• A <b>variable</b> is a symbol usually represented by a letter that stands for a value.</p> <p>• <b>variability</b> means "change" or "amount of change." It makes a statistical question different from a non-statistical question.</p> <p>• Statistical questions have answers that can vary. When we ask a statistical question, we expect a <b>variability</b> of answers.</p> <p>Call on pairs to share their work.</p>	<p><b>Reading/Spoken:</b> Read aloud, paraphrase, and think through Think It Through. From pairs to discuss what statistical questions are and how they differ from non-statistical questions. Before that begins, display the terms vary, variability, variable, and non-statistical. Clarify meanings as needed. Then ask each student to write the terms in a list. Ask students to use this structure in their discussion. Partner 2 explains what statistical questions are and how they differ from non-statistical questions. Partner 1 leaves and looks back at the number of times Partner 2 uses each of the displayed terms. Partner 2 switches roles. Finally, partners can contrast an explanation of how statistical and non-statistical questions differ.</p>

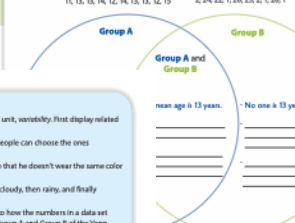
### Concept Development

Provides collaborative visual activities so students with a range of mathematical and English language proficiencies can access and build upon familiar concepts that are prerequisite for the unit.

### Concept Development

Here is data about the ages of people in two different groups. The mean age in both groups is 13. How are the groups alike and different? Write your ideas in the Venn diagram.

- Group A**  
11, 13, 13, 14, 14, 13, 13, 12, 15
- Group B**  
2, 24, 22, 1, 26, 25, 2, 1, 26, 1



### Preview Academic Vocabulary

Suggests activities through which students examine word meanings, word structure, and related words to create a word wall that students can refer to during the unit.

#### Preview Academic Vocabulary

- Preview the statistical term central to this unit, **variability**. First display related terms that may be more familiar:
- The store has a variety of fruits so that people can choose the ones they like best.
- Matt likes to vary the color of his shirt so that he doesn't wear the same color every day.
- The weather will be variable tomorrow: cloudy, then rainy, and finally some sunshine.
- Explain that **variability** in statistics refers to how the numbers in a data set differ from one another. Use the data in Group A and Group B of the Venn diagram as an example.
- Brainstorm as a class other data sets that would have a lot of variability (e.g., the height of middle school students) and those that might have very little (e.g., the ages of first graders).
- Post the term **variability** on a word wall or on an anchor chart for students to refer to throughout the unit. Have students add the word to their Math Journals.

mean age is 13 years.

No one is 13 years old.

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## Imagine Math Overview

At Imagine Learning we believe that all students are language learners. We believe that mathematical understanding and language development are interdependent and symbiotic. And most importantly, we know that when students are provided with meaningful learning experiences, they can master mathematics and acquire language at the same time.

Imagine Math lessons are designed to be instructional learning experiences that engage students in meaningful exploration of understanding mathematics. In an Imagine Math lesson, students will:

- Engage in thinking and reasoning about mathematics
- Investigate mathematical concepts and practices
- Explore mathematical ideas through a problem solving approach
- Solve problems using multiple representations of mathematical relationships

Students receive instructional support throughout the lesson in three main ways:

1. Feedback that is designed to address misconceptions and redirect thinking in response to student work
2. *Math Help* that is designed to provide direct instruction on the math concepts behind a particular problem, available upon student request
3. *Live Help* that allows students to **work directly with a bilingual, certified math teacher** on their math problem, also available upon student request



## At a Glance: Imagine Math Activities

Imagine Math lessons are designed to be instructional learning experiences that engage students in meaningful exploration of understanding mathematics. In an Imagine Math lesson, students will:



Activity	Overview
Pre-Quiz	Students have the opportunity to demonstrate their understanding of the content within the lesson.
Warm Up	Students practice procedures and recall facts that may be helpful in the lesson.
Guided Learning	Students engage in meaningful instructional tasks designed to facilitate understanding and reinforce college and career readiness standards. To support their learning, students have access to personalized feedback, digital manipulatives, reference tools, and live certified math teachers.
Problem Solving Process	Students work through and begin to internalize a problem solving process that can be applied to complex problems.
Practice	Students review, extend, and synthesize the ideas from the Guided Learning, continuing to receive corrective feedback.
Post-Quiz	Students demonstrate their understanding of the content within the lesson.

Unit 1, Lesson 1

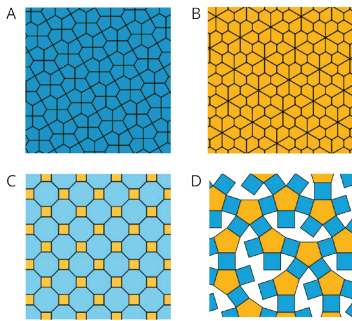
## Lesson 1 Tiling the Plane

### Learning Goals

Let's look at tiling patterns and think about area.

### 1.1 Which One Doesn't Belong: Tilings

Which pattern doesn't belong?



Unit 1, Lesson 1

## Lesson 1 Tiling the Plane

### Learning Goals

Let's look at tiling patterns and think about area.

### Learning Targets

- I can explain the meaning of area.

### Standards Alignment

<b>Building on</b>	<b>3.G.A</b> Reason with shapes and their attributes.
<b>Building towards</b>	<b>6.G.A.1</b> Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

### Lesson Narrative

Students start the first lesson of the school year by recalling what they know about **area** (note that students studied the area of rectangles with whole-number side lengths in grade 3 and with fractional side lengths in grade 5). The mathematics they explore is not complicated, so it offers a low threshold for entry. The lesson does, however, uncover two important ideas:

- If two figures can be placed one on top of the other so that they match up exactly, then they have the same area.
- The area of a **region** does not change when the region is decomposed and rearranged.

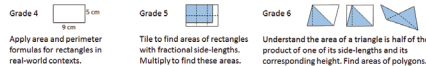
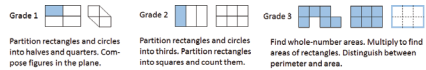
At the end of this lesson, students are asked to write their best definition of area. It is important to let them formulate their definition in their own words. For English learners, it is especially important that they be encouraged to use their own words and also to use words of their peers. In the next lesson, students will revisit the definition of area as the number of square units that cover a region without gaps or overlaps.

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### Unit 1, Overview

### Overview

Work with area in grade 6 draws on earlier work with geometry and geometric measurement. Students began to learn about two- and three-dimensional shapes in kindergarten, and continued this work in grades 1 and 2, composing, decomposing, and identifying shapes. Students' work with geometric measurement began with length and continued with area. Students learned to "structure two-dimensional space," that is, to see a rectangle with whole-number side lengths as composed of an array of unit squares or composed of iterated rows or iterated columns of unit squares. In grade 3, students distinguished between perimeter and area. They connected rectangle area with multiplication, understanding why (for whole-number side lengths) multiplying the side lengths of a rectangle yields the number of unit squares that tile the rectangle. They used area diagrams to represent instances of the distributive property. In grade 4, students applied area and perimeter formulas for rectangles to solve real-world and mathematical problems, and learned to use protractors. In grade 5, students extended the formula for the area of rectangles to rectangles with fractional side lengths.



In grade 6, students extend their reasoning about area to include shapes that are not composed of rectangles. Doing this draws on abilities developed in earlier grades to compose and decompose shapes, for example, to see a rectangle as composed of two congruent right triangles. Through activities designed and sequenced to allow students to make sense of problems and persevere in solving them (MP1), students build on these abilities and their knowledge of areas of rectangles to find the areas of polygons by decomposing and rearranging them to make figures whose areas they can determine (MP7). They learn strategies for finding areas of parallelograms and triangles, and use regularity in repeated reasoning (MP8) to develop formulas for these areas, using geometric properties to justify the correctness of these formulas. They use these formulas to solve problems. They understand that any polygon can be decomposed into triangles, and use this knowledge to find areas of polygons. Students find the surface areas of polyhedra with triangular and rectangular surfaces. They study, assemble, and draw nets for polyhedra and use nets to determine surface areas. Throughout, they discuss their mathematical ideas and respond to the ideas of others (MP3, MP6).

Because grade 6 students will be writing algebraic expressions and equations involving the letter  $x$  and  $x$  is easily confused with  $X$ , these materials use the "dot" notation, e.g.,  $2 \cdot 3$ , for

# Contracting Procedure

School districts wishing to acquire the services offered by the listed contracts should take the following steps:

1. Select from the *Products Included* offered by the contracted publishers.
2. Go to the LAUSD *Master Agreements (MA) - Bench Contracts* webpage (<https://achieve.lausd.net/Page/14464>) to access the LAUSD Directory corresponding to the “product/service description” *Instructional Materials for English Language Learners* for links to the approved contracts. (See below.) Review the pricing as well as terms and conditions to determine acceptability to the school district.
3. Email the selected publisher(s) outlining the specific proposed purchase and requesting the publisher’s written quote, noting that (a) each quote request should identify the product(s) sought, requested delivery date, and any special terms; and (b) for items as listed in the contract where no special terms are requested, the price quoted by the vendor should be no higher than the price shown in that publisher’s contract.
4. Using the agreed-upon quote, issue a purchase order or other purchase request to the selected publisher in accordance with your school district policy.

SAP Contract #	Contract Start Date	Contract End Date	Contractor	Product/Service Description	SAP Vendor No.
Various	3/1/19	2/28/22	Various	Instructional Materials for English Language Learners	Various

## LAUSD Contact Information

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**Alicia Martinez**  
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## CGCS Contact Information

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## LAUSD Approval of Contracts

ATTACHMENT B  
 REQUEST FOR APPROVAL OF PROCUREMENT CONTRACTS NOT UNDER DELEGATED AUTHORITY

**APPROVED**

A. APPROVAL OF PROFESSIONAL SERVICE CONTRACTS  
NEW CONTRACTS EXCEEDING \$250,000 \$5,800,000

CONTRACTOR	IDENTIFICATION NO.	DESCRIPTION	SOURCE OF FUNDS	AMOUNT
Curriculum Associates, LLC; Imagine Learning, Inc.; K12 OER Collaborative, d/b/a Open Up Resources	4400006090 4400006091 4400006039 (RF# 2006001304) <b>Item D</b>	Formally competed bench contracts to provide math instructional materials tailored to the needs of English Learners in Grades 6-8. The materials were developed in collaboration with the Council of the Great City Schools, five other schools districts and experts in the field of pedagogical theory relating to English Learners and mathematics. The authority to increase or decrease the individual amounts of these contracts will be limited to the aggregate value of \$5,000,000.	Various per Requesting School or Office (100%)	\$5,000,000

**Contract Term:** 03/01/19 through 02/28/24 includes two (2) one-year renewal options

**Aggregate Five-Year Value for Three (3) Contracts: \$5,000,000**

Requesters: *Derrick Chau*  
*Senior Executive Director*  
*P-12 Instruction, Division of Instruction*

*Lydia Acosta Stephen, Executive Director*  
*Multilingual and Multicultural Education*  
*Division of Instruction*

Bd. of Ed Rpt. No. 248-18/19
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Board of Education  
February 19, 2019