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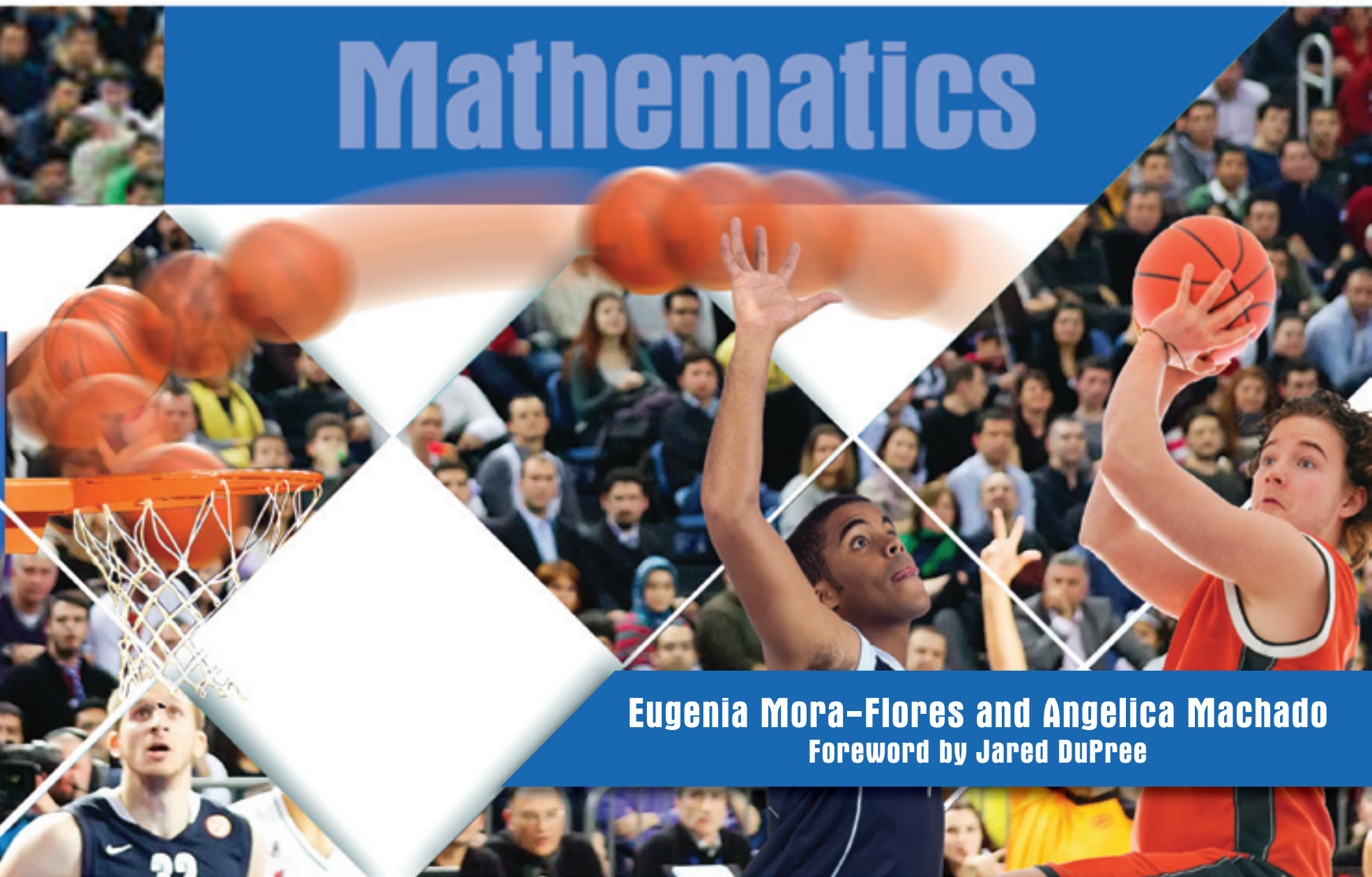www.tcmpub.com/teachers/professional-resources/correlations

To **Create** a *World* in which *Children* Love to *Learn!*

Strategies for Connecting Content and Language for English Language Learners

Mathematics

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Foreword by Jared DuPree

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Connecting Content and Language

What Is Academic Language?

Academic language includes the vocabulary, functions and forms of language, and the fluency to demonstrate thinking and learning across the curriculum. "(It) refers to the specialized vocabulary, grammar, discourse/textual, and functional skills associated with academic instruction and mastery of academic material and tasks" (Saunders, Goldenberg, and Marcelleti 2010, 49–50). Academic language has been used in educational conversations as a vehicle for supporting academic achievement. We hear educators say academic language is important across the curriculum; students need to develop academic language to be successful; every lesson should include academic language; *all* students need academic language. We can talk about it at a conceptual level as something that holds great importance in pedagogy and curricula and though true, these statements do not provide the guidance teachers need to plan with and facilitate academic language development. How can we understand it in a concrete way to operationalize what is meant by academic language development? In its simplest form, we can begin the conversation by helping teachers understand that academic language is about connecting content to language. It is selecting what we are going to teach (processing content) and the vehicle through which students can access the information (acquiring language) and share what they have learned (producing language). Processing and producing language to learn content and discuss what you've learned develops academic language.

This resource helps teachers engage in the conversation of the *what* and the *how* of academic language. It looks at language from a holistic perspective—listening, speaking, reading, and writing—that is integrated in complex ways as students access information and share their thinking. Academic language makes learning possible. It opens lines of communication as students engage in discussions and dialogue around their thinking and learning. It takes the ability to *listen* to a spoken message and decipher meaning from multiple perspectives and alternating points of view. It involves the ability to decode and process written language in its many representations to access information when *reading*. It allows students to create *written* examples of their thinking and *articulate* (speak) their ideas to many audiences and for a variety of purposes.

Throughout the school day, students listen to messages, read information, create written texts, and share their thinking. Whether in science, social studies, art, music, physical education, language arts, or math, students are constantly using their listening, speaking, reading, and writing abilities. The work of supporting students to do just that—use language across the curriculum—is the work of academic language development.

Connecting Content and Language *(cont.)*

Academic language development is the process by which students learn and express their thinking. Teachers of academic language development must find opportunities to explicitly and implicitly support students with this goal throughout the day. The strategies presented in this resource are intended to support teachers in developing students' academic language. Though the strategies are presented effectively in developing particular domains of academic language development—academic vocabulary, comprehensible input, comprehensible output, listening and reading comprehension, and academic writing—no single set of strategies works in isolation. Language is complex and incorporates multiple domains at a time; however, the strategies have been organized into categories to demonstrate their strength for a particular element of academic language development.

Academic language development and academic language are not synonymous. Academic language can be defined as the *what* in academic language development. It includes the function, forms, academic and content vocabulary, and fluency necessary to access and share ideas. Academic language development is the process through which students learn academic language. It is a complex process that includes identifying academic language, comprehensible input, comprehensible output, listening and reading comprehension, and academic writing. These elements can support students in developing academic language as they connect content and language throughout the day.

Forms and Functions of Language

The Common Core speaking and listening standards state, "To build a foundation for college and career readiness, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner" (2010, 22). For students to successfully engage in these rigorous academic discussions, they need to develop academic language. Teachers will need to explicitly model language used for a variety of purposes for students to acquire language through successful "listening" opportunities, as outlined in the standards. For example, anchor standards ask students to be able to interpret information presented orally and through other media, engage in conversations with diverse partners, and orally share their thinking demonstrating command of formal English (SL.2, SL.1, SL.6). To support students, teachers will need to have a clear understanding of the language demands of academic tasks.

Connecting Content and Language *(cont.)*

Defining academic language in concrete terms includes understanding what the purpose is for using language in any given exchange and the forms needed to meet those purposes. "The context for any piece of language is characterized by three features: what is being discussed (or written) about; the relationship between the speaker and listener (or writer and reader); and whether the language is spoken or written" (Halliday and Hansan 1985, as cited in Gibbons 2009, 47). Here we focus on identifying what is being discussed or written about as it relates to the context in which it is being shared.

Language *functions* can be defined as the purpose for using language. Why are we using language? Is it to compare, describe, justify, or persuade? When students are asked to produce language, they are given a task—a purpose for using language. They are asked to think in particular ways that set this purpose. For example, if students were asked to interpret the meaning of a text orally, the function, or purpose for using language in this case is interpretation. Identifying the thinking involved in a task helps determine the language function students will need to share their thinking.

Functions of language are directly connected to language *forms*. The forms of language, also referred to as frames of language, are the structures used to fulfill a function. For example, the language function may be interpretation. Forms may include:

- I think this means _____.
- I understand this to mean _____.
- I infer that _____.
- Based on _____, I deduce _____.
- If I read between the lines, I think _____.

As thinking skills become more complex, so do the functions of language needed to express one's thinking (Beltran, Mora-Flores, and Sarmiento 2013). We start to see a combination of simple functions of language to achieve more complex thinking. For example, interpreting is a higher-level thinking skill. It requires students to be able to comprehend and process the details of a text, think about multiple perspectives, deduce meaning, and ultimately provide their own interpretation of the information. The language function is just as complex. Students will need to use forms of language that describe, question, deduce, and infer in order to articulate an interpretation. The use of forms and functions of language in content-area instruction is strong. All content areas require students to process the information in different ways. Connecting language and forms and functions to the thinking around the content will develop academic language.

How to Use This Book

The strategies in this resource were designed to support you as the content-area teacher to enhance language-development opportunities in your classroom. It provides strategies that support key elements for developing academic language across the curriculum, including academic vocabulary, comprehensible input, comprehensible output, listening and reading comprehension, and academic writing. Also included within each lesson are ideas for differentiation in your classroom. All students are academic-language learners. They continue to engage with and acquire language that supports their access to information and share their thinking of complex tasks and content.

The strategies were created to help you see how they can enhance your lessons in ways that make them language intentional and language rich. The purpose is to give you a range of ideas and strategies to use when delivering language arts content to students and for providing them with opportunities to share their thinking and learning. The strategies are a bridge connecting the language to the content, thus the strategies are full of oral- and written-language exchanges. Students will be talking, moving, and listening to one another, while capturing new ideas and language along the way. Approaching your language arts planning from a language perspective will help students access the information and develop academic language in preparation for meeting content standards. Students will learn content and develop language to enrich their overall learning experience.

This resource is one of a series of four that provides ideas for planning lessons across the four core content areas: English language arts, mathematics, science, and social studies. Each notebook provides specific lessons that tailor the strategies to an intended grade range as well as a content-area standard and speaking and listening standard. Each strategy presented in this notebook uses language arts content to demonstrate how easily and effectively you can support students' academic language development.
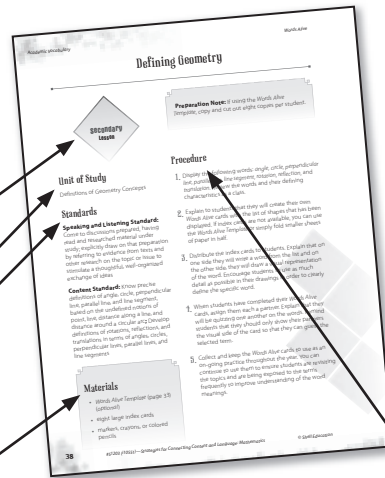
How to Use This Book *(cont.)*
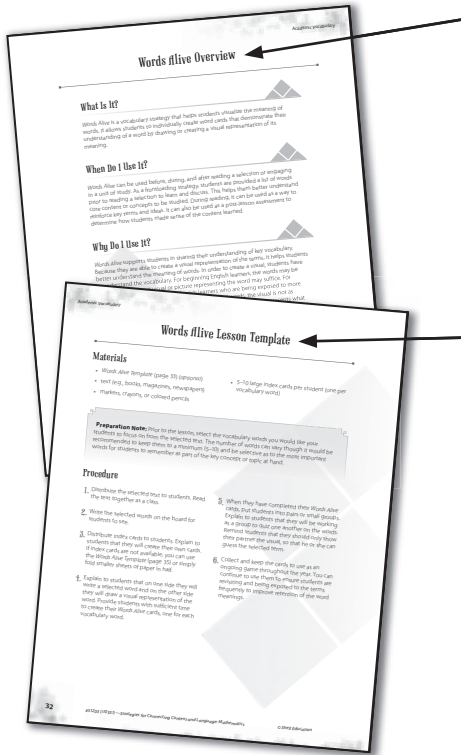
Each strategy begins with an **overview** page. This page explains the strategy and provides information about when and why to use it.

The **lesson template** provides a general outline of how to implement the strategy. This framework can be used to create lessons using other standards beyond what is provided in the model lessons.

For each strategy, a model lesson is provided for grades K–2, 3–5, and secondary. Each model lesson begins by identifying the intended **grade range**, suggested **unit of study**, and the appropriate **standards** addressed in the lesson. Each lesson includes both a speaking and listening standard, as well as a content standard.

The **procedure** section provides a step-by-step plan to successfully conduct the lesson with students.

The **materials** section lists the necessary supplies that should be gathered prior to delivering the lesson.
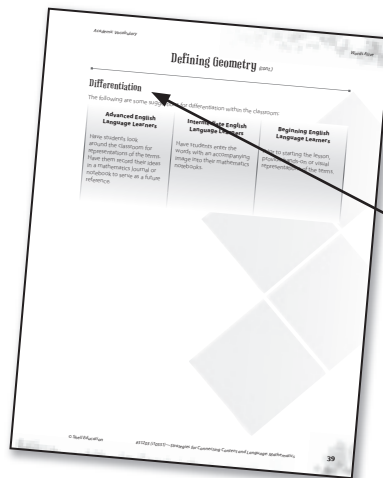
The **differentiation** section of the lesson provides suggestions for differentiating instruction based on students' language proficiency level.

Academic Writing Strategies Overview

Too often, writing instruction is incidental, and we ask students to write but do not teach them how to write. We give directions to create brainstorming webs and to convert their webs to a draft. Students are given feedback on the draft, correct their papers, recopy, and repeat until it is acceptable for the teacher. The problem with this process is that students do not always see the corrections they are making. They do not understand why the teacher marked up their papers; they simply recopy and follow the teacher's directions. In addition, many students are not always aware of what a draft looks like, depending on the genre in which they are writing.

> To make learning relevant and meaningful, students should see the authentic reasons for writing.

The support that English language learners often need when writing includes explicit instruction in written discourse. This encompasses understanding the elements of a genre, the structure, and the organization of the piece of writing. It includes understanding how the ideas are put together to meet a given purpose and communicate effectively. For English language learners, it is often best to scaffold the draft stage of the writing process. Typically, students spend a great deal of time in the pre-writing stage, preparing to write within a given genre. However, we do not always show them how to take those ideas and craft them into a written piece. Scaffolding the draft means writing in chunks.

To make learning relevant and meaningful, students should see the authentic reasons for writing. Where in real life will they see informative/explanatory, narrative, and opinion/argumentative writing? Helping students understand the authentic, real-life connection to writing shows them that writing is something they will encounter outside of the classroom. It is not solely for school but for communicating their thinking in written form, in and beyond school.

The academic writing strategies in this section include:

- Discourse Frame
- Say-Mean-Matter
- Word Swap

Discourse Frame Overview

What Is It?

A *Discourse Frame* is a form of written language that serves a particular purpose. It is a representation of organized written language that can be used to present information in a way that supports language development in order to prepare students to meet a written objective. A discourse frame can be created for any type of written language. A paragraph, an essay, a recipe, and a note are all examples of a *Discourse Frame*.

When Do I Use It?

The *Discourse Frame* should be used to introduce students to a written form of language. This should occur before a lesson or unit of study as a foundational strategy to support language development prior to delving deep into the students' content understanding of the standard. It can also be used at the end of a lesson to reinforce the language learned throughout the lesson.

Why Do I Use It?

Presenting the *Discourse Frame* provides explicit instruction on how to organize ideas in writing for a particular purpose. For example, when asking students to complete an exit slip, often called an "exit ticket" or "ticket to go," you can provide them with a discourse frame that explicitly presents the written language that can be used to complete the written task at hand. The following is an example of a *Discourse Frame* for an "exit ticket":

- What did you learn?

    Today I learned _____.

    One thing I learned was _____.

- Give an example.

    For example _____.

    Such as _____.

- What additional questions or comments do you have?

    I am still not sure about _____.

    One thing that I don't understand is _____.

    Why does _____?

Discourse Frame Lesson Template

Materials

- created discourse frame appropriate to content being taught

Procedure

1. Determine the written task students will be asked to complete.

2. Identify the elements of the task. In other words, what are the components you expect students to include? For example, the components of the "exit ticket" on the previous page are noted by the initial bullets. Under each component, create language forms or language starters to help support students within their academic language development.

3. Present the discourse frame(s) to students as a vehicle of support during the time in the lesson when they complete their written assignment.

Harvesting Word Problems

**Grades
K–2
Lesson**

Unit of Study

Addition and Subtraction within 100

Standards

Speaking and Listening Standard:
Ask questions to clear up any confusion about the topics and texts under discussion

Content Standard: Use subtraction within 100 to solve one- and two-step word problems involving situations of taking from, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem

Materials

- *Our Harvest Lunch* (pages 284–285)
- *Lunch Subtraction* (page 286)
- *Lunch Subtraction Answer Key* (page 332)

Procedure

1. Tell students that today we will be reading a text and then discussing the key ideas and details, as well as expressing our own thoughts and making connections to the text.

2. Distribute copies of *Our Harvest Lunch* to students. Read the text together as a whole group. If desired, have students read the text a second time in pairs or small groups.

3. Present the discourse frames below to students and discuss how and when to use each one. You can present all of the frames or only ones that are appropriate for your students. Model with selected student volunteers how to use the frames appropriately.

Pose and respond to specific questions to clarify or follow up on information

- One question I have about the text is _____.
- When you said _____, did you mean _____?
- To clarify, am I right in saying that _____?

Make connections that contribute to the discussion

- I think that _____.
- I also read that _____.
- That is a good point. Also, the text says_____.
- I think the author _____.
- This text makes me think of _____.

Link one's own remarks to those of others

- Like _____ (insert student's name), I think _____.
- Similar to _____ (insert student's name), _____.
- I agree/disagree with _____ (insert student's name), that the text says _____.
- After listening to _____ (insert student's name), I think _____.

Harvesting Word Problems *(cont.)*

Express and explain their own ideas and understanding in light of the discussion

- I think that _____ because _____.
- I read that _____.
- I have changed my mind. Now I think _____ because _____.
- I now know _____ because _____.
- This text makes me feel _____ because _____.

4. Facilitate a discussion about the key details and main ideas of the text. As appropriate, support students as they select discourse frames to use during the discussion. You may also have to prompt students with specific questions if the conversation slows. For example:

- How do you think the author feels about harvesting food?

- Do you think growing food would be hard? Why or why not?
- What connections can you make to this text? What does it make you think of?
- What games do they play on the orchard?

5. Distribute *Lunch Subtraction*, and have students work with a partner to solve the mathematics problems. As a class, review the answers to the problems. Ask students to volunteer the answers. Use some of the following discourse frames to help students provide answers.

- I know the answer to this problem is _____ because _____.
- I solved the problem by _____.

Differentiation

The following are some suggestions for differentiation within the classroom:

Advanced English Language Learners	**Intermediate English Language Learners**	**Beginning English Language Learners**
Without using a discourse frame, have students take turns describing what they had for lunch the previous day. Ask students to work together to create a discourse frame based on the language used to describe the object.	Diversify the language forms provided under each of the discourse frames.	Provide students with completed examples of the discourse frame to place into a full context.

Our Harvest Lunch

Planning the Harvest Lunch

The Garcia kids love the fall. They always go to their grandparents' home for a visit. Their grandparents have a huge apple orchard. All the kids and adults help pick apples.

The kids pick apples all morning. They love climbing the ladders best. They make lots of food with apples. Lunch will include many foods with apples.

Making Pies

To make the apple pies, they peel and cut up 15 pounds of apples. For 5 pies, they only need 10 pounds of apples. They use subtraction to figure out how many pounds of apples are left over. They will use those apples for a snack.

Grandma Garcia shows the kids how she can peel a whole apple without breaking the peel!

Our Harvest Lunch (cont.)

Fun at the Orchard

During their break after lunch, they plan the menu. They want to make sure there is enough food. They plan some games, too.

The kids plan their games. They have 50 apples to use for the games. They decide to bob for apples first. They set aside 24 apples for bobbing. They use subtraction to figure out that they have 26 apples left over for the other games.

Then they will play the apple-toss game. They will see who can toss apples into baskets that are far away.

The apple-toss game will be the most fun. There are 2 baskets set up. One is for the kids. One is for the adults. The adults' basket is a lot farther away than the kids' basket. The kids use subtraction to figure out that the adults' basket is 6 feet farther away than theirs.
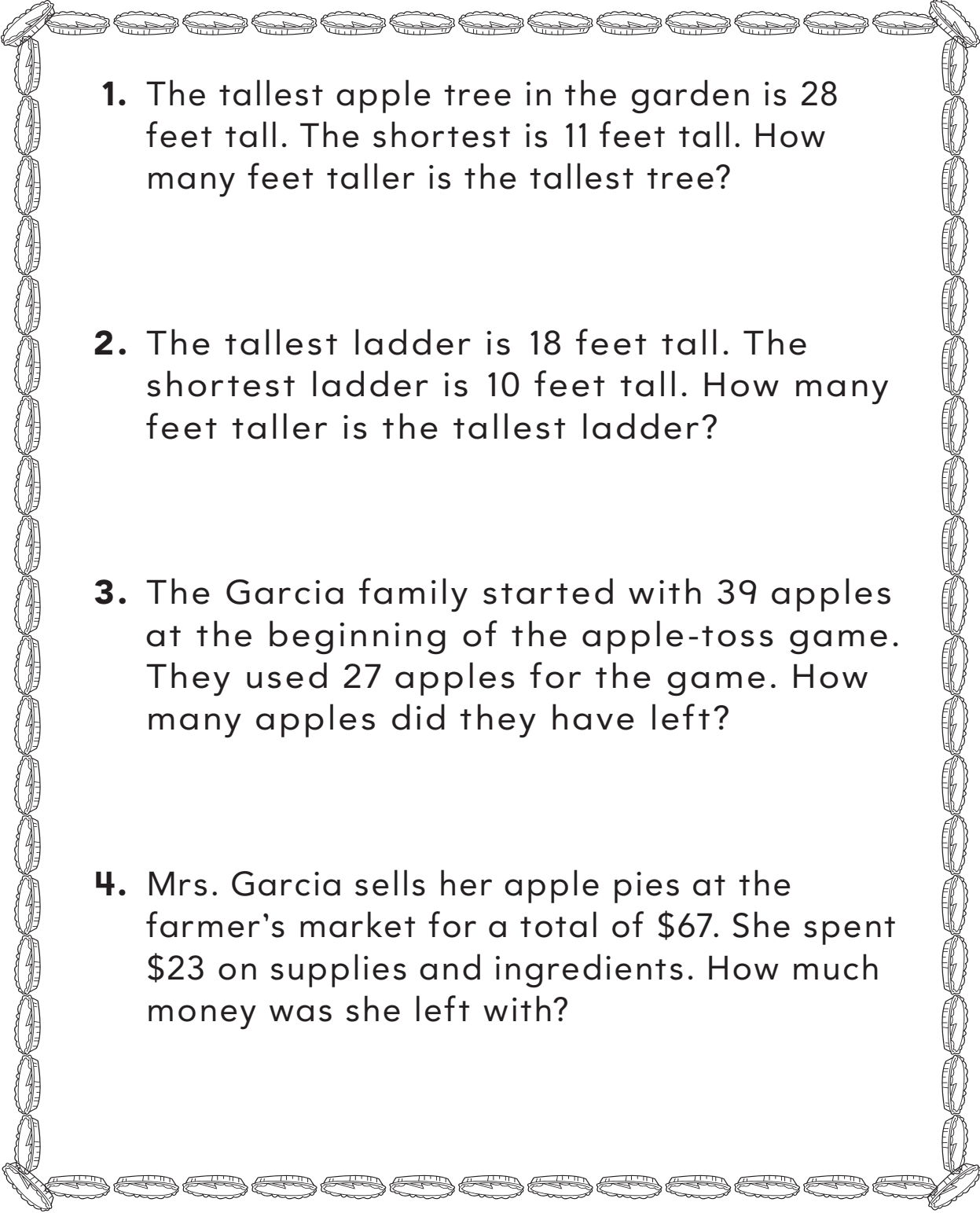
Mrs. Garcia does the best! Guess what her prize is? An apple pie!

Soon it is time to leave. But Grandpa Garcia has a big surprise for the guests. Each guest gets his or her very own apple tree!

Name: _____ Date: _____

Lunch Subtraction

Directions: Solve the math problems below.

1. The tallest apple tree in the garden is 28 feet tall. The shortest is 11 feet tall. How many feet taller is the tallest tree?

2. The tallest ladder is 18 feet tall. The shortest ladder is 10 feet tall. How many feet taller is the tallest ladder?

3. The Garcia family started with 39 apples at the beginning of the apple-toss game. They used 27 apples for the game. How many apples did they have left?

4. Mrs. Garcia sells her apple pies at the farmer's market for a total of $67. She spent $23 on supplies and ingredients. How much money was she left with?

Perfect Polygons
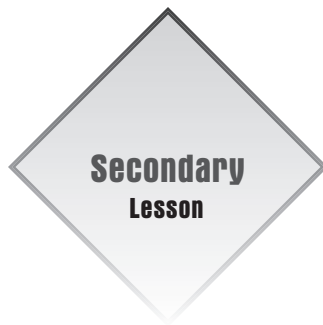
Secondary
Lesson

Preparation Note: Prior to the lesson, copy and cut out *Shape Cards*, one card per student.

Unit of Study

Geometric Shapes and Angles

Standards

Speaking and Listening Standard: Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence

Content Standard: Construct viable arguments and critique the reasoning of others; 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

Materials

* *Shape Cards* (page 293)

Procedure

1. Tell students that today they will be describing the attributes of different shapes and using attributes to draw geometric shapes.

2. Present the discourse frames below to students and discuss how and when to use each one. You can present all of the frames or only ones that are appropriate for your students. Model with selected student volunteers how to use the frames appropriately.

Pose and respond to specific questions to clarify or follow up on information

* One question I have about the shape is _____.
* When you said _____, did you mean _____?
* To clarify, am I right in saying that _____?

Make connections that contribute to the discussion

* I think that _____.
* I also think that _____.
* That is a good point. Also, the shape is _____.
* This shape makes me think of _____.

Link one's own remarks to those of others

* Like _____ (insert student's name), I think _____.
* Similar to _____ (insert student's name), _____.
* I agree/disagree with _____ (insert student's name), that the shape _____.
* After listening to _____ (insert student's name), I think _____.

Perfect Polygons *(cont.)*

Express and explain their own ideas and understanding in light of the discussion

- I think that _____ because _____.

- I see that _____.

- I have changed my mind. Now I think _____ because _____.

- I now know _____ because _____.

- This discussion makes me feel _____ because _____.

3. Select a shape card from the card stack. Show the card to the class. Model how to describe its geometric attributes. Use the language from the discourse frame in step 2 to guide your description of the shape.

4. Distribute one shape card to each student. Instruct students to use the discourse frames to practice describing their shapes independently. Then have students turn to a partner and describe their shapes to their classmates.

5. Once students have practiced describing shapes orally, collect the shape cards. Write and display a list of shapes for students to see.

6. Have students work with their partner to draw different shapes. Students can draw their shapes freehand, with a ruler, or with a protractor. Partner A will tell Partner B which shape to draw by providing certain attributes (e.g., has three angles, all angles are equal, all sides are the same length). Partner B draws the geometric shape that matches the conditions given by Partner A. Partner A confirms that the shape is drawn correctly according to the provided attributes. Partners switch roles.

Differentiation

The following are some suggestions for differentiation within the classroom:

Advanced English Language Learners	Intermediate English Language Learners	Beginning English Language Learners
Extend the frames to having the student create a full paragraph description of their shape.	Have students exchange shape cards and repeat step 4.	Complete more than one example together prior to having students select from the deck in step 3. Practice with the class using pair shares and teacher modeling for 2–3 shapes before step 2.

Shape Cards

Directions: Copy and cut out the cards. Distribute to students appropriately.