

# MATHEMATICS

## Teacher's Guide Overview

### Reading Support in Mathematics

Weekly Reader *Focus on Reading: Mathematics* provides supplementary reading support for grades 1-3 in the critical content area of math. This program can be used in a variety of ways, including for whole-group instruction, for pull-out groups, during extended literacy, or during literacy blocks. The Student Readers and accompanying lessons may be used in the sequence presented but the program is flexible so that you may use the lessons in any order to support the themes and sequence of your core instruction.

Within each kit are eight different Student Reader titles which cover major topics in grade-level mathematics. Each book has an eight-page lesson plan in the Teacher's Guide. The first two pages consist of a poster lesson and a concept and language practice master. Shown in this sampler are the next four pages of instruction: the first three pages address whole-group instruction; the fourth page focuses on differentiated instruction for struggling readers and English-language learners. Two additional pages (not shown here) consist of separate activities that provide math concept and skills practice. In addition, math vocabulary practice and an assessment are provided. The vocabulary practice masters and assessment may be found in the Teacher's Resource book found in the kit.

### Comprehension Strategies and Thinking Skills

Comprehension strategies and math/thinking skills are incorporated into every lesson, and a graphic organizer is provided for each lesson in order to help students organize information before, during, and after reading. Every reader features a *What Did You Learn?* section that consists of critical thinking questions that connect concepts explored in each book to student comprehension.



# About the Program

## Reading in the Content Area

### Developing Academic English

An important goal in today's classroom is helping students comprehend grade level content-area concepts and materials. There is increased pressure on teachers to help students achieve measurable gains in literacy and subject matter knowledge. In the content area, students are required to expand and develop their academic English as they read. Because content-area literacy depends on a growing knowledge of specialized vocabulary, and often of abstract concepts, all students can benefit from support and practice in expanding their vocabulary, developing oral language, and understanding content-area concepts.

### Explicit Instruction of Reading Strategies

*Focus on Reading: Mathematics* provides explicit instruction of reading strategies. It also provides extra practice and targets content-area vocabulary and concepts that students need to understand in order to develop academic language. By looking ahead to the demands that are placed on both teachers and students once they are not only learning to read, but reading to learn about content-area knowledge, *Focus on Reading: Mathematics* prepares students for this challenge.

### Reading Instruction in Math

*Focus on Reading: Mathematics* introduces explicit instruction of reading strategies within the context of the content-area subject matter. The reading strategies and activities are incorporated into three steps: Before/While/After Students Read, and each step provides ample opportunity to practice reading strategies. Students benefit from a program in which reading strategies in math are both taught and practiced.

## Whole-Group Instruction

### Before Reading

Before reading, provide a summary of the book and use theme concept posters to support the reading, language, and math content for each theme. Use posters and other activities to build background, introduce theme concepts, preview or reinforce vocabulary, build oral language, and encourage writing connected to the theme.

Introduce both the *Math/Thinking Skill* and the *Comprehension Strategy*, discuss with students why the skill and strategy are important in helping them understand what they read, and explain how they will use them while they read.

### While Reading

While reading, model the *Math/Thinking Skill* and the *Comprehension Strategy* and use the *Comprehension Strategy: Language Support* activity for reinforcement. Use *Guide Comprehension* ideas and the *Fill Out a Graphic Organizer* activity to help students organize information and understand the new information they read.

### After Reading

After reading, have students recall what they have learned by asking them questions from the *Review What Students Learned* section. In addition to extending the content of each theme, the theme concept posters also provide an opportunity for informal assessment of students' understanding of the content.

Guide students through the *Writing Activity* by using prewriting steps to help prepare them to respond to the writing prompts provided in this section. Extend students' learning with the vocabulary activities in the Teacher's Resource book.

## English-Language Learners

English-language learners represent a diverse group of students that bring a wide range of linguistic, cultural, and literacy experiences to the classroom. By using strategies that help students of all English-language proficiencies explore words, extract meaning, and gain understanding, teachers can build a foundation that will help English-language learners access both language and content-area learning.

### Differentiated (Small-Group) Instruction for English-Language Learners

The differentiated instruction page is dedicated to helping teachers support language and concept development for English-language learners—and any student needing more help. This page features language development objectives and activities, along with a comprehension check that provides teachers with tips on how to assess students at different English-language proficiency levels. An audio CD provides English-language learners extra opportunities to listen and respond, and to review vocabulary and concepts, as needed.

### Instructional Features

The Differentiated (Small-Group) Instruction for English-Language Learners page explicitly teaches students about the structure of the English language, within the context of content-area learning.

Specific instructional features for English-language learners include the following:

- language development objectives
- differentiated activities
- audio CD with recordings in English of each book
- online audio recordings of each book in Spanish by native speakers
- leveled comprehension questions

### English-Language Proficiency Levels

As students acquire English, they do so along a continuum, which is often described in stages. It is important to become familiar with the characteristics of the stages of English-language proficiency in order to differentiate instruction according to each student's needs.

Beginning Level	Intermediate Level	Advanced Level
At the beginning level, English-language learners have little vocabulary or literacy in English. It may be helpful to find out about students' literacy in their home languages.	At the intermediate level, English-language learners have some conversational fluency in English but still are not proficient in the academic English that is used for content-area learning.	At the advanced level, English-language learners have developed conversational fluency and some proficiency in academic English. However, students are still not completely proficient and they are still developing academic English.

### Additional Language Support

For additional support, there are audio recordings in Spanish for each book for all three grade levels. Each recording, by native speakers, is available online for access in school or at home with parental guidance. Access the audio files at [www.weeklyreader.com/focusonreading](http://www.weeklyreader.com/focusonreading).

# Teacher's Guide Lesson

## Planning for a Party

### Summary

A number sentence shows adding (joining) groups or subtracting (taking away) from a group. An example of a number sentence for adding is  $12 + 14 = 26$ . An example of a number sentence for subtracting is  $36 - 11 = 25$ .

### Whole-Group Instruction

#### Before Children Read

##### Build Background

- Copy the summary onto the board or onto chart paper and read it aloud. Underline key terms, such as *number sentence*, *adding*, and *subtracting*. Point to examples using the number sentence  $36 - 11 = 25$ . Explain that children will learn more about these mathematical concepts in the book.
- Guide children on a picture walk through the book. On page 5, point to the picture and say: *They are planning a party*. On page 6, show the numbers and explain: *They need enough food and drinks for 21 children and 2 adults*. Point out number sentences and objects that they represent throughout the book. Ask whether the number sentences show adding (pages 9 and 13) or subtracting (pages 11 and 15). Have children write a number sentence about objects in the room, such as pencils or textbooks.
- Draw a three-column chart with columns labeled *Question*, *Groups*, and *Number Sentence*. Model filling it in. Under *Question*, write the following: *How many people are in our classroom?* Count groups in the class, such as children and adults, and record the information under *Groups*. (example: *21 children and 1 adult*) Then ask: *To answer the question, should we add or subtract these groups?* Confirm that you should add them. Then write the number sentence in the last column. (example:  $21 + 1 = 22$ )

##### Vocabulary

- Tell children that as they read the book, they will learn words that are used to talk about addition and subtraction. Add the vocabulary words from the right-hand column to the classroom word wall and model the pronunciation of each word. As you read the words *add* and *subtract*, write example problems for each on the board.

##### Present and Discuss the Comprehension Strategy:

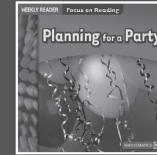
###### Restate

- Tell students that when we restate something, we tell in our own words what we have heard or read. When we read books, we can restate facts and details. We might tell them in a different order or use simpler words to explain them. When we restate facts, we understand and remember them more clearly.

##### Present and Discuss the Math/Problem-Solving Skill:

###### Reason

- When we reason, we explain why we did something a certain way or how we got an answer. We use examples and solutions to explain our thinking. Using reason helps us understand and solve problems more effectively.



#### Lesson Objectives

- Learn about number sentences
- Add and subtract to solve word problems
- Use the comprehension strategy **Restate**
- Practice the skill **Reason**

#### Vocabulary

number sentence, p. 7  
add, p. 7  
subtract, p. 11

#### Comprehension

##### Strategy

Restate

#### Math/Problem-Solving Skill

Reason

#### Materials

Three-Column Chart

#### Content Area Language/Skill Development

Use the poster lesson (page 17) and the practice master (page 18) to develop academic language and to reinforce math/problem-solving skills.

### Comprehension Strategy:

#### Language Support

Write on the board the phrase *in all*. Ask three volunteers to come forward. Then say: *There are three volunteers in all, or in total*. Next, write these synonym groups: *more-extra-left* and *plenty-enough-right amount*. Hold up four pencils. Give one to each volunteer. Show the remaining pencil and say: *I have one more pencil, or one pencil left. This pencil is extra*. Then hold up three pieces of paper. Give one to each volunteer and say: *That was plenty of, or enough, paper*. Repeat the process with other objects.

### Fill Out a Graphic Organizer

Provide further practice using a three-column chart. Model how to fill in questions and number sentences. Read page 6. Then under the column labeled *Question*, copy the question from page 6. Ask children: *Which groups of people will be at the party?* Confirm that adults and children will attend. Under *Groups*, write the number of children and adults. Then ask: *To answer the question, should we add or subtract the groups?* In the final column, write the number sentence  $21 + 2 = 23$ . Ask children to follow this process to answer each question with a number sentence.

## WR Whole-Group Instruction

### While Children Read

#### Model the Comprehension Strategy:

##### Restate

Remind children that restating text, such as questions and number sentences, will help them understand important information in the story. Model an example of how to restate:

**Think Aloud:** *On page 6, I see stick figures and the numbers 21 and 2. Above, I read this question and text: How many people will be at the party? There are 21 children. There will be 2 adults. To help me remember the text, I will restate it like this: We need to know how many people will be at the party if there are 21 children and 2 adults there. This helps me understand the question. Now I can prepare to solve it.*

#### Model the Math/Problem-Solving Skill:

##### Reason

As you read the book with the class, help children use reasoning to understand and solve each problem. Model an example of how to reason:

**Think Aloud:** *On page 6, I read the question: How many people will be at the party? I will use reasoning to answer the question. I see that there will be 21 children and 2 adults at the party. I know that I need to add these two groups to find out how many people will be there in all. I know that 21 plus 2 is 23. So, 23 people in all will be at the party.*

#### Guide Comprehension

Write the following questions on the board and read them aloud. Ask children to answer the questions as they read the book. Have the children discuss the answers in small groups and then share them with the class.

- What number sentence shows how many people will be at the party? ( $21 + 2 = 23$ ) Why is this number important to plan the party? (*to be sure that the children bring enough food, drinks, and beads for everyone at the party*)
- How many boxes of juice will Team Two bring to the party? What number sentence shows this? (*Team Two will bring 25 boxes of juice. The number sentence  $36 - 11 = 25$  shows this.*)
- How many balloons will they use for the party? What is the number sentence that describes this part of the story? (*They will use 41 balloons. The number sentence is  $24 + 17 = 41$ .*)
- What number sentence can you write to answer the question on page 14? ( $21 - 9 = 12$ ) What does each number stand for? (*The number 9 stands for packs of long beads, 21 stands for packs of round beads, and 12 stands for how many more packs of round beads there are than long beads.*)

Suggest to children that they use charts and other graphic organizers to record their information. Encourage them to support their answers with descriptive details whenever possible. Have the children in each group add to their answers if another group provides them with new or different information from what they already have.

## **WR** Whole-Group Instruction

### After Children Read

#### Review What Children Learned

Invite children to share what they have just learned about adding and subtracting using number sentences. Ask questions such as the ones listed below to reinforce key concepts and vocabulary. Prompt children to use words from the classroom word wall when they give their answers.

- What mathematical operations do number sentences in the book show? (*adding and subtracting*)
- Which picture shows how many children and adults will be at the party? (*the picture on page 6*) Which number sentence adds these groups together? ( $21 + 2 = 23$ )
- Why do the children add 24 balloons and 17 balloons? (*to find how many balloons they have in all*)

#### Writing Activity

**Prewriting:** Tell children that you would like them to write about what they have learned about using number sentences to add and subtract. Remind them that it helps to prepare before they write. Review these prewriting steps:

- Think about what you are going to write. What is the topic? What are the main ideas? Write these down.
- Look at what you have recorded on your three-column chart as you read the book. What information is very important?
- Put your ideas and details in the order in which you want to tell them.

#### Writing Prompts

Write the following three prompts on the board and have children choose one to respond to with writing and/or drawing:

- What are number sentences?
- What does the word *subtract* mean? Give an example of a subtraction number sentence.
- What kind of number sentences can you use in daily situations? Give an example.

#### Cross-Curricular Connections

Have students work in small groups to write number sentences that show buying and selling. Ask students to pretend that each group has 75¢. Then list on the board these items and prices: *a piece of gum—25¢, a pencil—15¢, a box of juice—30¢, and a muffin—40¢*. Next, list pairs of items, such as the following: (1) *a piece of gum and a pencil*; (2) *a box of juice and a muffin*; (3) *a piece of gum and a muffin*; (4) *a pencil and a bag of chips*. Have group members write number sentences to add the prices for each pair; for example,  $25¢$  (*a piece of gum*) +  $15¢$  (*a pencil*) =  $40¢$  or  $25 + 15 = 40$ . Then have students write a number sentence that shows the change they will receive from 75¢; for example,  $75¢ - 40¢ = 35¢$  *in change* or  $75 - 40 = 35$ .

#### Comprehension Check: Language Development

You may need to rephrase the writing prompts in order to give English-language learners a chance to demonstrate what they have learned. Ask yes/no or either/or questions and write on the board cloze sentences such as the ones below. Have children say or write the answers:

1. Is  $21 + 2 = 23$  a number sentence? (*yes*)
2. Does  $12 + 11 = 23$  show subtracting? (*no*)
3. When we subtract, we \_\_\_\_\_ a number. (*take away*)

#### Quick Assessment: Activity Practice

See pages 23 and 24 for activity practice worksheets.

#### Answer Key

- p. 23
1. number sentence
  2. add
  3. subtract
- Answers may vary.*
- p. 24
1. The Lees will mail 51 letters;  $26 + 25 = 51$
  2. There are 34 pounds of fruit left;  $57 - 23 = 34$
  3. She has 81 marbles in all;  $45 + 36 = 81$
  4. They have 17 signs left to put up;  $84 - 67 = 17$
- Answers may vary.*

## Differentiated (Small-Group) Instruction for English-Language Learners

### Language Development Objectives

- Identify number sentences
- Explain how to solve a number sentence

### Audio Playback

Play the audio CD and have children follow the reading silently. Pause between pages to review vocabulary and concepts, as needed.

### Pause and Assess

Check children's comprehension during and after the reading by asking them questions appropriate for their proficiency levels.

#### Beginning

**Ask:** Do we use number sentences to add and subtract? (*yes*)

#### Intermediate

**Ask:** Which number sentence shows adding to a group:  
 $12 + 14 = 26$  or  $36 - 11 = 25$ ?  
 ( $12 + 14 = 26$ )

#### Advanced

**Ask:** Give an example, from the story, of a subtraction number sentence. Then tell what each number stands for. (*Answers may vary.*)

### Explain the "Big Idea"

Copy the summary on page 19 onto chart paper or onto the board. Use gestures, repeat terms, and pause frequently as you read the summary. Illustrate concepts, using pictures, diagrams, or objects in the classroom.

### Before Reading

#### Preview/Preteach

Tell children that they will be learning about number sentences. Point out the examples of the number sentences in the summary. Explain that this book gives examples of number sentences that add or subtract numbers. Tell students that when they add, they join two groups. When they subtract, they take away objects from a group.

- **Vocabulary:** Write essential terms on the board or on chart paper, such as *add*, *subtract*, and *number sentence*. Preview new vocabulary used in the book to teach concepts about number sentences. Use examples in the book to explain the concepts. Then ask brief comprehension questions.
- Do a picture walk of the book. Model and guide children to comment on what they see: *On the cover, I see party decorations. Here, I see juice boxes. On this page, I see the math problem and number sentence  $36 - 11 = 25$ .*
- Point to number sentences and objects that they represent throughout the book. For example, ask children: *Why do you think children in this book need to use number sentences?* Confirm that they need them to plan a party so that each guest has enough food, drinks, and other items.

### While Reading

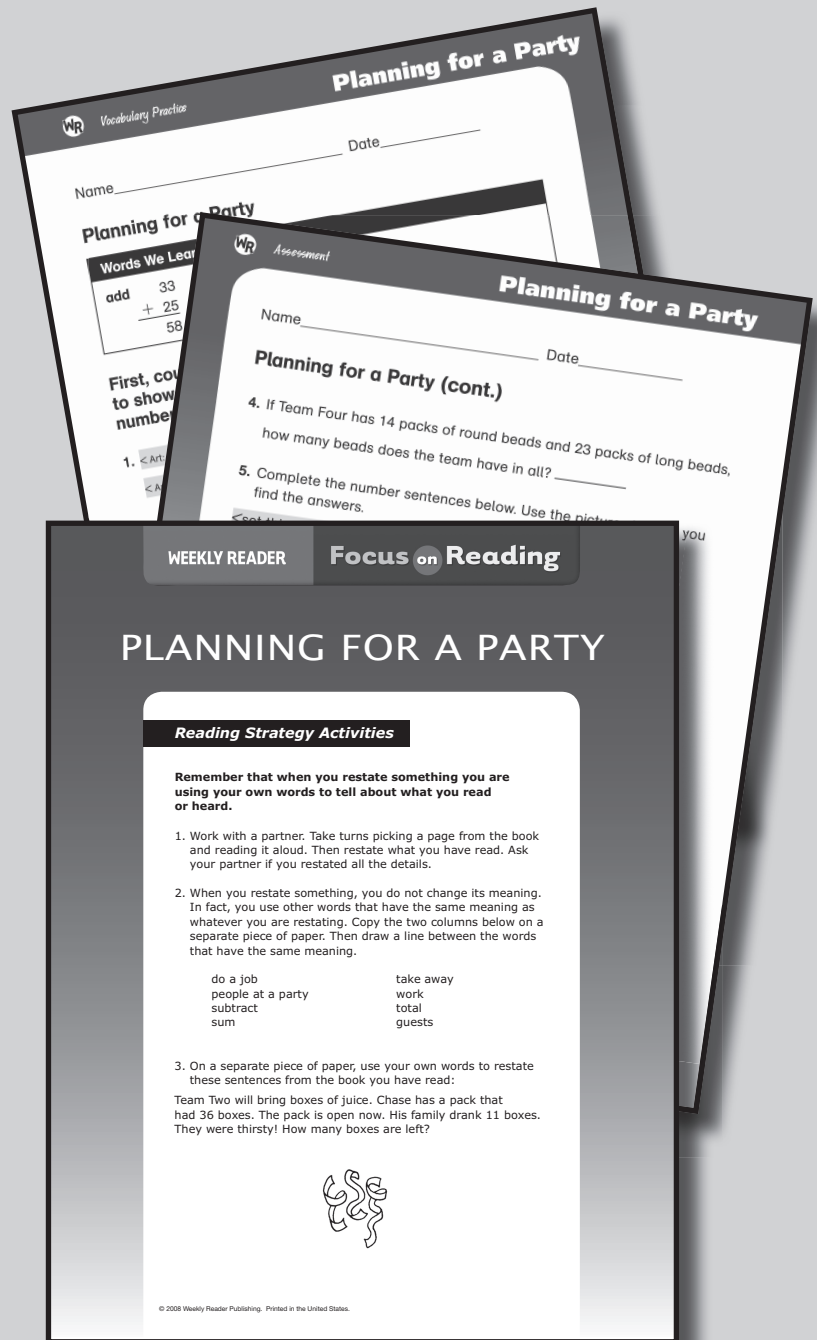
- Write the vocabulary words, as well as any other words that you think might be new for children, and brief definitions, on the board or on a chart. After you read each page of the book, pause briefly to restate the most important point. As you do so, emphasize the new words and point to the chart or board as you say them in context.
- As they read the book, have children write number sentences along with a sketch of the object that each number represents. For example, after reading page 6, children should record the number sentence  $21 + 2 = 23$ . Under the number 21, children should sketch a small stick figure and under the number 2, they should sketch a large stick figure.

### After Reading

- Encourage children to share what they have learned. Ask them to form pairs and write number sentences about objects in the classroom. Then have the class discuss the number sentences.
- Have children form small groups and plan a class party. Ask them to write number sentences about items that they will bring. Explain that first they should determine the number of people who will be at the party. Then they should decide who will bring which items.

## Assessment, Practice and Strategies

Comprehension strategies and math/thinking skills are incorporated into assessments for every lesson. A variety of common test formats are used: higher-order thinking, multiple choice, cloze sentences, and graphic organizers. Math vocabulary activities also reinforce material from the leveled readers. Reading Strategy cards give students reinforcing practice in the reading strategy highlighted in each lesson.



From Set B *Planning for a Party* Assessment,

*Practice and Strategies*

