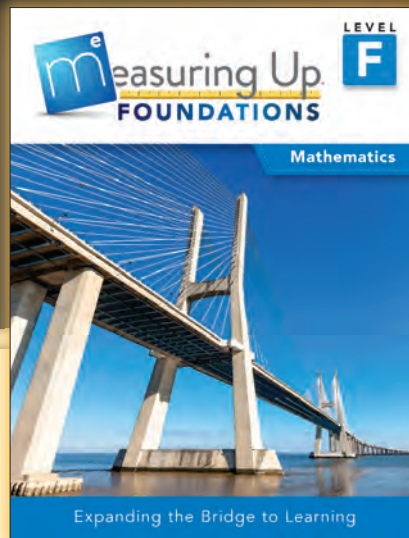
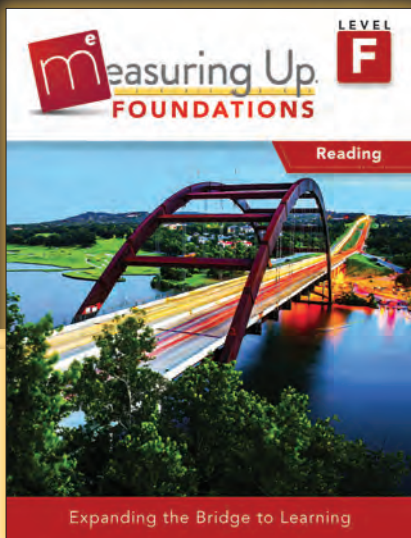


**NEW**  **measuring Up.**  
**FOUNDATIONS**  
**PROGRAM SAMPLER**

**GRADES 6-8**  
**LEVELS F-H**

**Reading**  
**Mathematics**

Reinforce Accelerated Learning **with Unparalleled Teacher Support**

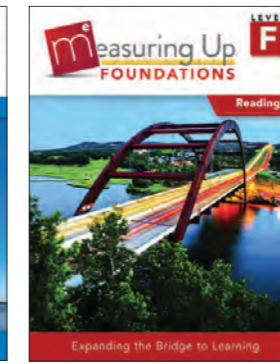
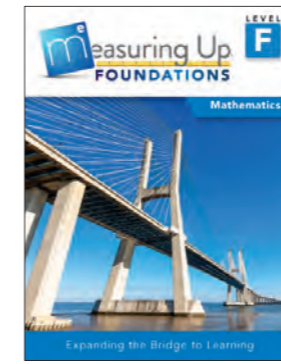


**mastery**  
education



Focus on essential skills in reading and mathematics for students who need to master critical foundational skills to become successful with on-grade-level standards. Close learning gaps to help students bridge to grade-level learning.

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## GRADES 6-8 LEVELS F-H

Reading  
Mathematics

**Measuring Up Foundations** addresses learning gaps with a focused approach to teaching and learning foundational skills.

### PREREQUISITE SKILLS ALIGNED TO GRADE-LEVEL STANDARDS

#### Components include:

- Full-color **Student Worktext**
- Digital **Assessments** customized to program (pre-, post-, and chapter tests)
- **Teacher’s Manual** with explicit instructional support for every lesson

#### Aligned to the Grade-Level Standards

#### Lesson features:

- Research-based lessons with purposeful lesson design prevents overwhelming struggling students
- Emphasis on vocabulary and setting learning goals
- Formative assessment with two levels of independent practice and end-of-lesson activity

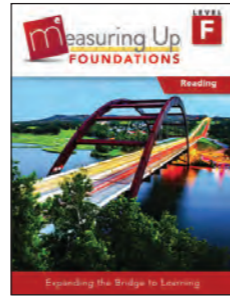
# STUDENT EDITION

## Measuring Up Foundations Student Edition

The 4-part lesson plans encompass the research-based components required for intense instruction.

### Accelerate achievement with:

- Single skill focused lessons with explicit instruction
- Reduced complexity of skill and task, aligned to grade-level standards
- Reduced readability increases strategically throughout lessons
- Scaffolded support
- Differentiated instruction
- Assessments to monitor learning



Reading  
Level F, Lesson 1

Lesson 1 • Long and Short Vowels

### Guided Instruction

Read the words below and answer the questions.

setting	market	plane	circle
retrieve	unpack	recite	construct
arrange	debate	streak	float

### Guided Questions

Circle the words with the short vowel sounds.  
Box the words with the long vowel sounds.  
Underline the words with vowel teams.

- 1 What is the vowel sound in the word **leak**? How do you know?  
\_\_\_\_\_
- 2 What is an r-controlled vowel? Write two words with an r-controlled vowel.  
\_\_\_\_\_  
\_\_\_\_\_

4 Level F Copying is prohibited.

Set clear learning goals and activate background knowledge.

Provide context for new learning and academic vocabulary.

Measure Kids provide hints, tips, and guidance to keep learners engaged.

Chapter 1 • Phonics and Fluency

### Independent Practice

Answer the questions that follow.

#### Practice 1

- 1 Which word has the same vowel sound as the word **blade**?  
A park                      C table  
B bowl                      D perfect
- 2 Which word has an **r-controlled vowel** sound?  
A rope                      C bridge  
B drive                      D turtle
- 3 Which word has a silent **e**?  
A perfect  
B reply  
C bake  
D garden
- 4 Which words have the same **long vowel** sound?  
A **gift** and **bike**  
B **mark** and **lake**  
C **roam** and **hope**  
D **seen** and **shed**
- 5 Circle the words with the **long e** sound.  
listen   able   beach   enjoy   greedy

Remember, when the r comes after a vowel, the vowel has an r-controlled sound.

Remember the rule for silent e.

Recall the different ways letters can make a long vowel sound.

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Varied question types allow students to interact with skills in multiple ways.

Lesson 1 • Long and Short Vowels

### Practice 2

- 1 Which phonics rule applies to the word **tape**?  
\_\_\_\_\_
- 2 Circle the words with **vowel teams**.  
party   circus   teacher   freedom   after
- 3 Which word has the same vowel sound as **crept**?  
A seed  
B castle  
C peach  
D better
- 4 Which words have the same vowel sound?  
A **green** and **leaf**  
B **listen** and **life**  
C **mint** and **bride**  
D **yellow** and **yard**
- 5 Match the words with the vowels.  
short o sound                      bake  
short i sound                      creek  
vowel team                      drop  
silent e                      this

Remember vowel teams are two vowels next to each other that make one sound.

Read each word. Listen to the vowel sounds and look at the vowel patterns you know.

6 Level F Copying is prohibited.

Clean page layout eliminates distractions.

Lesson 1 Long and Short Vowels

### Introduction

What Will I Learn?

- What are the vowel sounds?
- How do I know a long vowel sound from a short vowel sound in a word?

Words have long and short vowel sounds. Knowing the sounds and the letter patterns that make the sounds helps you read better.

Break Down the Skills

The alphabet has 26 letters. The letters **a, e, i, o,** and **u** are **vowels**. All of the other letters in the alphabet are called **consonants**.

Each vowel has a **long vowel sound** and a **short vowel sound**. The long vowel sound is the same as the vowel's name. Short vowel sounds are different from the vowel's name. Here are some words that have short vowel sounds.

cap	mat	dog	log	met
sit	dip	run	bun	pen

The letters in the words above all begin with a **consonant**, have one vowel in the middle, and end with a **consonant**. These words follow a **pattern** called **consonant-vowel-consonant**, or **CVC**. The vowel sound in CVC words is always short.

When a word has two consonants with a vowel in the middle, it has a short vowel sound.

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Strategically placed thinking questions focus learning.

Examples and illustrations support and clarify meaning.

Exit Ticket offers a quick check of understanding.

Chapter 1 • Phonics and Fluency

### Exit Ticket

Now that you know about long and short vowels, put the words below in the correct side of the table. Cross out each word as you use it.

ripe	meat	listen	shrub	bring
date	picnic	float	rebate	rabbit

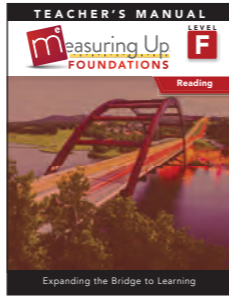
Short Vowel Sounds	Long Vowel Sounds

What word can you add to the **short vowel** side of the chart?

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# UNPARALLELED TEACHER SUPPORT

The Teacher's Manual provides a comprehensive approach to instruction with an easy-to-use lesson format allowing for customized and differentiated instruction for struggling students and English learners.



Reading  
Level F, Lesson 1

Two sets of practice questions provide instructional options for supported and independent practice.

Additional teaching support for students who continue to struggle is provided at the end of every lesson.

Help English learners with language frames and strategies to develop oral language proficiency.

Support learning with Graphic Organizer reproducible masters. Available in every lesson, they aid mastery and foster the transfer of skills across the curriculum.

**TEACHER GUIDE**  
**Lesson 1** Long and Short Vowels

**At-a-Glance**

Learning Objectives	Why Students May Struggle
<ul style="list-style-type: none"> <li>Distinguish long from short vowel sounds.</li> <li>Identify and read r-controlled vowel words.</li> <li>Decode multisyllable words with vowel teams.</li> </ul>	Vowel sounds are spelled in many different ways, so students may struggle to determine the difference between short and long vowel sounds.

**Academic Vocabulary**

vowel	consonant	long vowel sound
short vowel sound	pattern	CVC
silent e	vowel team	r-controlled vowel

**WHAT WILL I LEARN?**  
**ACTIVATING PRIOR KNOWLEDGE**

- Before the lesson, display the alphabet. Ask students if they can identify the vowels and the consonants.
- Put the vowels, a, e, i, o, and u on the board. Activate students' prior knowledge by asking them what sounds each of these letters can make. Then ask them to brainstorm what words they already know with these letters. Guide them to identify whether the words they named have the long or short vowel sound.
- Have students say single-syllable CVC words such as *cat*, *bin*, and *cup*. See if they can spell the word as you write. If not, spell for them. Write the words on the board as students call them out.
- Repeat the above routine with long vowel words such as *kite*, *same*, and *hope*.

**EXPLICIT INSTRUCTION**

- Review the long and short sound of each vowel. Explain that students will learn different ways to spell vowel sounds.
- Start with short vowel sounds in words. Write words with the simple CVC pattern, and guide students to blend and read the words with you. Point out that the short vowel comes between two consonants.

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Quick view of lesson makes planning easy.

Set learning goals and foster meaningful connections to new learning.

Reduced readability increases strategically throughout lessons.

Lesson 1 • Long and Short Vowels

- After students are confident with short vowel sounds, move on to long vowel sounds. Start with one-syllable words such as *cake*, *bike*, *see*, and *go*. Have students recognize that the vowels say their own name in these words.
- Explain that sometimes an e on the end of the word changes the vowel from a short vowel sound to a long vowel sound. Give several examples such as *cap* and *cape*, *bit* and *bite*, and *huge* and *hug*.
- Explain that sometimes two vowels that are together in a word make a long vowel sound. In these words the first vowel says its name and the second vowel is silent. Give examples such as *rain*, *boat*, and *team*.
- Write several long vowel words on the board including both CVCe and CVVC patterns such as *hope* and *float*. Say each word, stretching out the sounds. Point out that the long vowel sound is the same as its name.
- Write several words with r-controlled vowels, such as *bird*, *hurt*, and *smart*. Ask students what they notice about the vowel sound in each word. Underline the r in each word. Point out that it comes after the vowel and changes its sound.
- Point out that students can use what they know about vowels to break longer words into parts they know and read the word. Write several multisyllable words. Ask students to identify vowel patterns they know to help them break the words into parts and read the words.

**BREAK DOWN THE SKILLS**  
**TEACH ACADEMIC VOCABULARY**

- Tell students that all the letters in the alphabet are either **vowels** or **consonants**. The letters a, e, i, o, and u are vowels. All the other letters are consonants. They are all units of sound.
- Explain that each vowel has a **long vowel sound** and a **short vowel sound**. The long vowel sound is the same as the vowel's name; the short vowel sound is different. Read the short vowel words.
- Guide students to look for any **patterns** they may see in the words. The pattern, or repeated form, is that the words begin with a consonant, have a vowel in the middle, and end with a consonant. Tell them that these are called **consonant-vowel-consonant**, or **CVC**, words. The vowel in CVC words makes a short vowel sound.

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In Mathematics, error analysis provides insight into areas of learning difficulties.

Suggestions are provided for students who exhibit common errors.

Lesson 1 • Long and Short Vowels

**Differentiate for English Learners**

English learners may have a difficult time with English vowel sounds because the vowel letters may have different names and sounds in their home language. For example, the *a* sound in the word *cat* and the *u* sound in the word *but* do not exist in Spanish. It might benefit them to work in pairs or groups to create a list of words with these sounds. Read the words aloud with them to hear and practice the pronunciations.

**GUIDED INSTRUCTION**  
**Guided Reading Activity**

- Some students may benefit from hearing you read the activity aloud. If necessary, have students follow along as you read aloud. Otherwise, direct students to read the activity quietly to themselves.

**Guided Reading Questions**

- Read the Guided Reading Questions aloud and have students answer them. Discuss the answers orally.

**Differentiate for Struggling Readers and English Learners**

In the multisyllable words, highlight or underline the vowel or vowel team on which students are focusing. For example, in the word *setting*, highlight the e. In the word *recite*, highlight the i. If students struggle to come up with r-controlled vowel words on their own, offer them some choices and have them identify the words with the r-controlled vowels. Practice saying the words and the vowel sounds together and pointing to where the r comes after the vowel in the word.

**INDEPENDENT PRACTICE**  
**Practice 1 Questions**

- Read the questions and answer choices aloud as students select the answers. Review the answers and provide reminders and reteach as needed.

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Chapter 1 • Phonics and Fluency

**Practice 2 Questions**

- Ask students to read the questions and select the answers independently. Review the answers and provide reminders and reteach as needed.

**EXIT TICKET**

- Have students fill in the chart by writing new long and short vowel words using vowel patterns they have learned.

**ADDITIONAL SUPPORT**  
**SUPPORT FOR STRUGGLING LEARNERS**

- Have students make a T-chart on a board, piece of paper, or in their notebook. Label one side "short vowel sounds" and the other "long vowel sounds." Have students collect several objects from around the room. Then have them name each item, identify the vowel sound in the word, and write the word on the T-chart on the correct side. If the word has multiple syllables with both long and short sounds, write the word on both sides of the chart.
- Give students a highlighter or colored pencil. Have them pick five or six words from a text and highlight the vowel they see in each word. Ask them if they know the word and if they can tell you if the vowel makes a long or short sound.
- Have students make memory cards using vowel sound labels such as "short a," "long a," "short e," and "long e." Then have them write some short and long vowel words on cards so that each vowel sound card has a match. See examples below. Next, have them use the cards to play a memory game with a partner.  
short a – path, long a – plate, short e – pen, long e – green, short i – chin, long i – nice

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Lesson 1 Copy Master

Name \_\_\_\_\_ Date \_\_\_\_\_

**On Your Own**  
For each letter, write words with long and short vowel sounds.

Long and Short Vowel Words		
Letter	Long Vowel Sound	Short Vowel Sound
a		
e		
i		
o		
u		

Measuring Up Foundations • Reading 7

Fully developed instructions support master teachers and novices alike.

Each lesson guide provides comprehensive directions for assigning and supporting practice.

# RESEARCH-BASED PROGRAMS YIELD RESULTS

**Measuring Up Foundations** embraces the cognitive theory of reducing the complexity of new learning and other proven strategies.

**Measuring Up Foundations** puts brain-based research into action with these key strategies.

- Instruction is clear.
- Instruction is focused.
- Examples are relevant.
- New learning is segmented.
- All learning is connected.
- Learning is scaffolded.
- Thinking time is incorporated.
- Strategies are varied.
- Assessment informs instruction.

## IMPLEMENT WITH FIDELITY

Uses the four-part lesson framework noted for closing gaps and accelerating learning. The proven framework incorporates research-based practices for consistent implementation and pacing.

### Assessment Matters

#### Monitor Learning to Adjust Instruction and Measure Growth

- Custom assessments delivered via **Measuring Up Live** include pre-, post-, and chapter tests.
- Reports measure growth, identify strengths and weaknesses, and support data-led instruction.

### Flexibility Is Key to Implementation

Using lessons in any order as needed supports use in diverse implementation models.

- **Classroom Instruction**  
Use with whole-class or small-group instruction to introduce skills, support your current instructional program, provide a focused review, and remediate as necessary.
- **Intervention Services—Push In or Pull Out**  
Provide explicit instruction of foundational skills for students who struggle with grade-level learning. The flexible organization provides congruency with mainstream classroom instruction.
- **Extended Learning Programs**  
Engage students with essential skill mastery to bridge to grade-level learning.

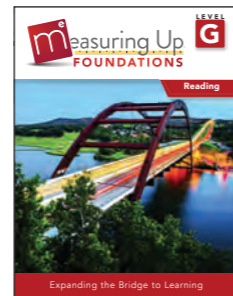
# SCOPE OF SKILLS



Focused Areas	Phonics and Fluency	Reading Literature	Literary Analysis and Response
<b>Level F Grade 6</b>	<ul style="list-style-type: none"> <li>• Long and Short Vowels</li> <li>• Phonics</li> <li>• Prose and Poetry with Purpose and Expression</li> <li>• Context Clues</li> </ul>	<ul style="list-style-type: none"> <li>• Textual Evidence</li> <li>• Theme or Central Idea</li> <li>• Characters and Plot</li> <li>• Figurative and Connotative Meanings</li> </ul>	<ul style="list-style-type: none"> <li>• Text Structure</li> <li>• Point of View</li> <li>• Compare and Contrast Different Versions</li> <li>• Compare and Contrast Genres</li> </ul>
<b>Level G Grade 7</b>	<ul style="list-style-type: none"> <li>• Long and Short Vowels</li> <li>• Phonics</li> <li>• Prose and Poetry with Purpose and Expression</li> <li>• Context Clues</li> </ul>	<ul style="list-style-type: none"> <li>• Textual Evidence</li> <li>• Theme or Central Idea</li> <li>• Characters and Plot</li> <li>• Figurative and Connotative Meanings</li> </ul>	<ul style="list-style-type: none"> <li>• Text Structure</li> <li>• Point of View</li> <li>• Multimedia</li> <li>• Different Accounts of the Same Period</li> </ul>
<b>Level H Grade 8</b>	<ul style="list-style-type: none"> <li>• Long and Short Vowels</li> <li>• Phonics</li> <li>• Prose and Poetry with Purpose and Expression</li> <li>• Context Clues</li> </ul>	<ul style="list-style-type: none"> <li>• Textual Evidence</li> <li>• Theme or Central Idea</li> <li>• Dialogue and Plot</li> <li>• Figurative and Connotative Meanings</li> </ul>	<ul style="list-style-type: none"> <li>• Text Structure</li> <li>• Point of View</li> <li>• Multimedia</li> <li>• Different Accounts of the Same Period</li> </ul>

Reading Informational Texts	Analyzing Informational Texts
<ul style="list-style-type: none"> <li>• Cite Evidence</li> <li>• Central Ideas and Key Details</li> <li>• Meaning of Words and Phrases</li> </ul>	<ul style="list-style-type: none"> <li>• Text Structure</li> <li>• Point of View</li> <li>• Different Media and Format</li> <li>• Argumentative Text</li> <li>• Compare Presentations on the Same Subject</li> </ul>
<ul style="list-style-type: none"> <li>• Cite Evidence</li> <li>• Central Ideas and Connections</li> <li>• Word Choice</li> </ul>	<ul style="list-style-type: none"> <li>• Text Organization</li> <li>• Author's Point of View</li> <li>• Compare Multimedia</li> <li>• Argumentative Text</li> <li>• Two or More Authors on the Same Subject</li> </ul>
<ul style="list-style-type: none"> <li>• Cite Evidence</li> <li>• Central Ideas and Connections</li> <li>• Word Choice</li> </ul>	<ul style="list-style-type: none"> <li>• Text Organization</li> <li>• Author's Point of View</li> <li>• Different Mediums</li> <li>• Argumentative Text</li> <li>• Different Texts on Similar Topics</li> </ul>

# READING STUDENT SAMPLE



## Reading Level G, Lesson 2

### Lesson 2 Phonics

## PART 1

#### Introduction

##### What Will I Learn?

- What are syllables?
- How can I use letter sounds, syllables, and word parts to read new words?

You can put together what you know about letter sounds and word parts to read new words.



### Introduction and Break Down the Skills

#### Break Down the Skills

The 26 letters of the alphabet include **vowels** a, e, i, o, u and **consonants**. These letters make 44 different sounds, or **phonemes**, that are combined to make words. Review each phoneme in the chart below. Look at the letter, read the word, and listen for the sound.

b bus	d dog	f farm	g gate	h hat	j jam	k car	l leaf	m man
n nail	p pat	r run	s sun	t top	v van	w wish	y yo-yo	z zip
ng sing	wh what	zh treasure	ch chin	sh shoe	th the	th third	a ant	e egg
i ink	o odd	u run	ae rain	ee tree	ie light	oa boat	ue uniform	oo mood
oo book	ou cow	oi boy	or fork	ar car	ear spear	er bird	air chair	

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## PART 2

### Guided Instruction

#### Guided Instruction



#### Guided Questions

cheetah kangaroo wombat mouse puppy

In this row, circle the words with only two syllables.

popular reverberate challenging unfamiliar disperse

In this row, box the words that have a prefix.

happiness restless flavorful backdrop mismanage

In this row, underline the words with a suffix.

counter encounter pleasant unpleasant disengage

In this row, circle the words with three syllables.

1 The word **cover** has two syllables. Add a prefix to make a three-syllable word.

2 What does **sorrowful** mean? How many syllables does it have?

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## PART 3

### Independent Practice—2 Levels

#### Independent Practice

Answer the questions that follow.

##### Practice 1

1 How many syllables does **resentful** have?

- A one C three  
B two D four

2 Break the word **comforting** into its syllables.

\_\_\_\_\_

3 What does the word **prejudge** mean?

- A to not judge  
B to judge before  
C to judge once again  
D to judge in the past

4 How many syllables does **fantastic** have?

- A two  
B three  
C four  
D five

5 Circle the words that have only three syllables.

calibrate retake transplant interpreter disgusted

What does the prefix **pre-** mean?



12 Level G Copying is prohibited.

#### Practice 2

1 Break the word **enchantment** into its syllables.

\_\_\_\_\_

2 What does **powerless** mean? How many syllables does it have?

\_\_\_\_\_

3 Circle the words that have only two syllables.

fluster arrival medic clerical plains

4 How many syllables does **retreating** have?

- A one  
B two  
C three  
D four

5 Match each word to the number of syllables it contains.

one syllable elemental  
two syllables joyful  
three syllables fleet  
four syllables carnivore

Remember, each syllable can have only one vowel sound.



Remember, vowel teams make only one vowel sound.



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## PART 4

### Exit Ticket

Now that you understand phonics and syllables, write how many syllables each word has.

Word	Syllables
exhale	
fisherman	
magical	
rewrite	
compost	
skeptical	
forge	
escalator	
intimidating	

14 Level G Copying is prohibited.

Chapter 1 • Phonics and Fluency

Some letters make more than one sound.

- Vowels can be long (**rain, tree, light, boat, uniform**) or short (**ant, egg, ink, odd, run**).
- Some consonants also make more than one sound, such as **g (gift, giant)** and **c (cat, cent)**.

Some groups of letters combine to make a single sound.

- **Digraphs** are consonant groups that make one sound (**ch, sh, th, wh, zh, ng**).
- **Vowel teams** are vowel groups that make one vowel sound (**ae, ee, ie, oa, ue, oo, ou, oi, oy**).
- **R-controlled vowels** are vowels followed by letter **r** (**or, ar, er, ear, air**).

All words are made up of one or more **syllables**. A syllable is a spoken word part, like a beat, that contains one vowel sound. Tap your desk as you say the syllables in the following words.

in / side    el / e / phant    win / dow

Each syllable in a word has one vowel sound.

- **Chat** has one vowel and one syllable.
- **Clean** and **plate** each have two vowels that make one sound and one syllable.
- **Contest** has two vowels and two syllables (**con / test**).
- **Complete** also has two syllables (**com / plete**). The second syllable has two vowels, but the final **e** is silent, so it only has one vowel sound.

When you see a long word you do not know, do the following.

- Break the long word into syllables.  
calculator → **cal / cu / la / tor**
- Ask what the vowel sound is in each syllable.  
**cal / cu / la / tor**
- Blend the syllables to read the word.  
**cal    cu    la    tor**

Combine all you know about letters and sounds to help you read new words.

A syllable has one vowel sound. Remember, sometimes two vowels make only one sound.

If a syllable ends in a consonant, it often has a short sound. If it ends in a vowel, it often has a long sound. If it ends in vowel + **t**, it has an r-controlled vowel sound.

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Lesson 2 • Phonics

An **affix** is a group of letters added to a **root** word, or main word, in order to change its meaning. A **prefix** is added to the beginning of a word. A **suffix** is added to the end of a word. If you know the affix and the root, you can read the longer word.

**unlike** = un + like  
prefix root

**likeable** = like + able  
root suffix

**unlikeable** = un + like + able  
prefix root suffix

If you know what these affixes mean, finding them can also help you understand the meaning of an unknown word. For example, if you know the prefix **un-** means **not** and the suffix **-able** means **able to be**, then you know that **unlikeable** means **not able to be liked**.

Here are some more affixes and their meanings.

Prefix	Meaning	Suffix	Meaning
dis-	not, separate	-est	most
ex-	without, former	-ful	full of
in-	into, without	-ic	relating to
pre-	before	-less	without
re-	again	-ness	being, having

You can also figure out how to read a word by using **context**, or the words around it. Some words are spelled the same but have different pronunciations and meanings.

He wiped a **tear** from his eye.    There is a **tear** in my jeans.

In the first sentence, **tear** means a drop of liquid from the eye. So you know the vowel sound rhymes with **dear**.

In the second sentence, **tear** means a rip. So you know the vowel sound rhymes with **air**.

Look for affixes and roots to help you read longer words.

As you read, ask what an unknown word means. The meaning is a clue to the pronunciation of the word.

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Lesson 2 • Phonics

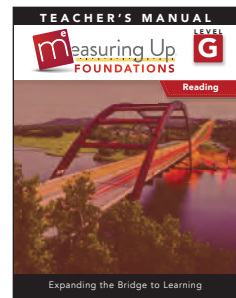
Exit Ticket

Now that you understand phonics and syllables, write how many syllables each word has.

Word	Syllables
exhale	
fisherman	
magical	
rewrite	
compost	
skeptical	
forge	
escalator	
intimidating	

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# READING TEACHER SUPPORT SAMPLE



Reading  
Level G, Lesson 2

Chapter 1 • Phonics and Fluency

## Lesson At-a-Glance Review

- Learning objectives
- Academic vocabulary
- Why students may struggle
- Passage information

## PART 1 Introduction Break Down the Skills

## Activating prior knowledge specific to skill

## Explicit instruction— pre-lesson

## TEACHER GUIDE

### Lesson 2 Phonics

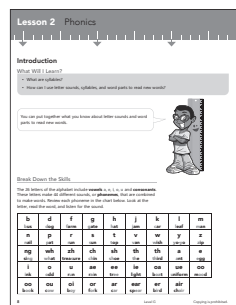
#### At-a-Glance

Learning Objectives		Why Students May Struggle	
<ul style="list-style-type: none"> <li>• Review phonics skills used to read longer words.</li> <li>• Use syllables and affixes to determine the meaning and pronunciation of an unknown word.</li> <li>• Read multisyllabic words in and out of context.</li> </ul>		Students may struggle to understand that syllables are a function of sound and not text. They may also have difficulty isolating each syllable to a single sound.	
Academic Vocabulary			
vowel	consonant	phoneme	digraph
vowel team	r-controlled vowel	syllable	affix
root	prefix	suffix	context

### WHAT WILL I LEARN?

#### ACTIVATING PRIOR KNOWLEDGE

- Display a short passage or sentence that contains at least one challenging longer word. Give partners two minutes to read it and discuss strategies they used to read the challenging word. Then ask them to share what they did with the class. Did they break the word into smaller parts they know? How did they use what they know about letter sounds to read the word? Did they use the context of the sentence or passage to help them figure out the word's meaning or pronunciation?
- Write three words on the board that share a prefix (for example, *retake*, *reprint*, and *reread*). Ask students what they have in common both in spelling and in meaning. Repeat with three words that share a suffix.



#### EXPLICIT INSTRUCTION

- Tell students that as they read, they will come across words with which they may not be familiar. Explain that in this lesson, they will learn how to use their knowledge of phonics to break large words down into smaller parts to read them. Point out that doing so will help them pronounce the word, and sometimes it may even help them determine the word's meaning.
- Briefly review the phonics skills students already know by displaying some different words that contain a variety of phonemes and spellings, and ask students to read them. If students have trouble with certain words, review the phonics skills necessary for reading those words.

8

Level G

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- Introduce syllables orally so students learn to think of them as units of sound and not text. Say a word, then have students repeat it, clapping once for each vowel sound they hear. Begin with one- and two-syllable words, increasing to longer words as appropriate. Some specific words to consider for use throughout the following steps are *mishap*, *catalog*, *plate*, *mistake*, and *contaminate*.
- On the board, write some of the words students practiced orally. Using a different color, draw lines between the syllables as students repeat the words aloud and clap the syllables. Point out that each syllable has one vowel sound. They can determine the number of syllables in a word by counting the vowel sounds they hear. Make sure they understand this is the number of vowel sounds, not the number of vowel letters in the word. For example, the letters in a vowel pair or CVCe pattern make one vowel sound and stay together in the same syllable.
- With syllables marked on each word on the board, review phonics rules at the syllable level. For example, point out the word *catalog*. Remind students that both the *a* in *cat* and the *o* in *log* are short. Help them apply the same rule to *mishap*. Then review silent *e* with *plate* and *mistake*. Show students how these can function together in a longer word like *contaminate*.
- Explain that another way to break words into manageable parts is to look for affixes and root words. Point out that there are two kinds of affixes: prefixes and suffixes. Provide examples of both. Explain that if students can read the affix and the root word separately, they can read the longer word.
- Emphasize that affixes have the specific function of changing the meaning of a word. Show multiple examples of one prefix or suffix to demonstrate, such as *miscalculate*, *misinform*, and *misjudge*, and discuss how the affix changes the meaning of each word in a similar way.
- Explain that another way to figure out how to read a word is to consider the text around it and figure out its meaning. This is especially helpful for words that are spelled the same but can have different pronunciations and meanings in different contexts. Write these sentences: *Set the timer for one minute. There was a minute amount of gold dust in the sand.* Point out that *minute* has short vowel sounds when it means "a unit of time" and long vowel sounds when it means "a very small amount."

Explicit instruction during lesson

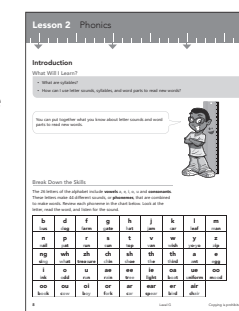
PART 1  
Introduction  
Break Down the Skills

Front loading of concept-specific vocabulary

### BREAK DOWN THE SKILLS

#### TEACH ACADEMIC VOCABULARY

- Remind students that the alphabet has 26 letters, which include **vowels** (*a, e, i, o, u*) and **consonants**. These letters make 44 different sounds, or **phonemes**. Review the phoneme chart with students.



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9  
a word by its  
ples on the

- If time allows, have students complete the On Your Own chart at the end of these notes.  
Answer key: *air/plane, rain/drop, el/e/phant, dish/wash/er, ba/by/sit/ter, coun/ter/bal/ance*

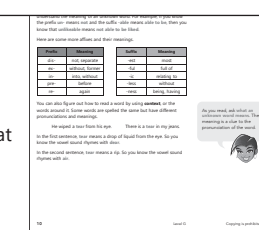
#### Differentiate for Struggling Readers

Provide extra time working with syllables orally before moving to print. After having students clap the syllables in several words, reinforce the concept by introducing the "hand on chin" method. In this technique, have students place their hands on their chins as they say a word aloud. Each time their chins move down, this is one syllable. Struggling readers may also benefit from the use of compound words when learning to identify syllables.

#### Differentiate for English Learners

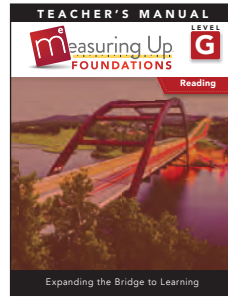
Learning about syllables can help English learners to understand and internalize the rhythm of English and stressed and unstressed syllables, an important component of developing fluency. Model reading multisyllabic words and clapping the syllables; clap loudly for stressed syllables and softly for unstressed syllables. Have students repeat after you.

Struggling student and English learner support embedded within lesson





# READING TEACHER SUPPORT SAMPLE



Reading  
Level G, Lesson 2

## Guidance included for each activity—

- Guided Instruction
- Independent Practice—2 Levels
- Exit Ticket

## PART 2 Guided Instruction

## PART 3 Independent Practice

Chapter 1 • Phonics and Fluency

**GUIDED INSTRUCTION**

Guided Reading Activity

- Some students may benefit from hearing you read the activity aloud. If necessary, have students follow along as you read aloud. Otherwise, direct students to read the activity quietly to themselves.

Guided Reading Questions

- Read the Guided Reading Questions aloud and have students answer them. Discuss the answers orally.

**INDEPENDENT PRACTICE**

Practice 1 Questions

- Read the questions and answer choices aloud as students select the answers. Review the answers.

Practice 2 Questions

- Ask students to read the questions and select the answers independently. Review the answers.

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Lesson 2 • Phonics

**EXIT TICKET**

- Have students fill in the Exit Ticket. Encourage them to use the clapping or "hand on chin" technique to help them determine the number of syllables per word.

**ADDITIONAL SUPPORT**

**SUPPORT FOR STRUGGLING LEARNERS**

- When practicing syllable division, write words with a very subtle space between the syllables. This will guide students almost imperceptibly as they try to break the words down. As students become more adept, gradually reduce and then eliminate this spacing trick.
- Limit affixes to one syllable (avoiding, for example, *multi-* and *-able*). Introduce multisyllabic affixes only after mastery of single-syllable affixes.
- Give students index cards on which you wrote the individual syllables of words. For example, give students an index card with *hap* written on it and another card with *pen* written on it. Encourage students to combine the cards in the correct order to form a word. Increase the number of cards/syllables as students advance.

**SUPPORT FOR ENGLISH LEARNERS**

- When brainstorming examples to use with English learners, control the number of phonics rules in play at any one time. For example, choose words with short vowels only or vowel teams only.
- When introducing suffixes, carefully preselect the words you model. Initially, avoid words with spelling changes when a suffix is added (such as *friendliness* and *relatable*).
- Have students work together to make an anchor chart of affixes and their meanings. Tell them they can refer to this chart when they encounter new English words with those affixes. They can also add to the chart throughout the year as they learn new affixes.
- Give students index cards with prefixes and suffixes on them. Call out a word that contains one of the affixes, having students hold up the prefix or suffix they heard. You can also use these cards with root word cards to have students practice adding and removing affixes.

**EXTENSION ACTIVITIES**

- Provide copies of an above-level text for students to read. Have them highlight longer words that they have to figure out. Ask volunteers to share with the class what strategies they used to decode the words.
- Challenge students to create the longest words possible by combining multiple prefixes and suffixes with a root word. This also works as a scavenger hunt as students read independently. Have them keep a log of words with affixes, and periodically invite students to share their longest entry. See who found the longest word.

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## EXTENSION ACTIVITIES for every lesson

For students who need more, teachers can choose the extra activities specific to lesson skills. Copymasters included.

## PART 4 Exit Ticket

End of lesson—  
additional support  
for struggling learners and  
English language learners

Lesson 2 Copy Master

Name \_\_\_\_\_ Date \_\_\_\_\_

**On Your Own**

For each word, write one syllable in each box.

**airplane**

--	--

**raindrop**

--	--

**elephant**

--	--	--

**dishwasher**

--	--	--

**babysitter**

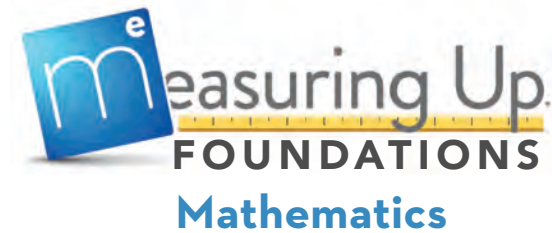
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**counterbalance**

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Measuring Up Foundations • Reading 13

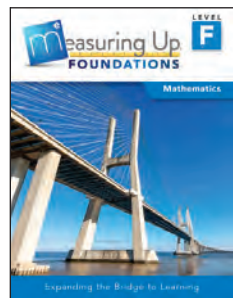
# SCOPE OF SKILLS



Focused Areas	Ratios & Proportional Relationships	Expressions & Equations	Statistics & Probability
<b>Level F Grade 6</b>	<ul style="list-style-type: none"> <li>Understand Ratios</li> <li>Solve Mathematical and Real-World Rate Problems</li> </ul>	<ul style="list-style-type: none"> <li>Write and Evaluate Expressions with Exponents</li> <li>Understand Expression Terms and Equivalent Expressions</li> <li>Generate Equivalent Expressions</li> <li>Use Variables to Write Expressions for Real-World Problems</li> <li>Write and Solve Equations in Mathematical and Real-World Problems</li> <li>Write and Solve Inequalities in Mathematical and Real-World Problems</li> </ul>	<ul style="list-style-type: none"> <li>Recognize Possible Data with Enough Variability for a Statistical Question</li> <li>Display Data Using Number Lines, Dot Plots, Box Plots, and Histograms</li> <li>Determine Measures of Center and Variability</li> <li>Summarize Numerical Data Sets</li> </ul>
<b>Level G Grade 7</b>	<ul style="list-style-type: none"> <li>Compute Unit Rates and Identify Proportional Relationships</li> <li>Find Unit Rate in Tables, Graphs, and Equations</li> <li>Determine the Constant of Proportionality</li> <li>Write Equations to Show Proportional Relationships</li> </ul>	<ul style="list-style-type: none"> <li>Add, Subtract, Factor, and Expand Linear Expressions</li> <li>Write Equations to Solve Problems</li> <li>Solve and Graph Inequalities</li> </ul>	<ul style="list-style-type: none"> <li>Understand Sampling</li> <li>Compare and Interpret Data Sets</li> <li>Approximate the Probability of Chance Events</li> <li>Understand Probability of Simple and Compound Events</li> <li>Develop and Use Probability Models</li> <li>Use Lists, Tables, and Tree Diagrams to Represent Sample Spaces</li> </ul>
<b>Level H Grade 8</b>	N/A	<ul style="list-style-type: none"> <li>Graph Proportional Relationships</li> <li>Find Slope and Y-intercept for Similar Right Triangles</li> <li>Solve Linear Equations</li> <li>Solve problems Involving Systems of Equations</li> </ul>	<ul style="list-style-type: none"> <li>Create and Interpret Scatter Plots</li> <li>Fit a Straight Line to a Scatter Plot and Determine Slope and Intercept</li> </ul>

The Number System	Geometry	Functions
<ul style="list-style-type: none"> <li>Divide Fractions to Solve Mathematical and Word Problems</li> <li>Add, Subtract, Multiply, and Divide Whole Numbers and Decimals</li> <li>Understand and Represent Positive and Negative Numbers</li> <li>Compare and Order Rational Numbers on a Number Line and in Real-World Situations</li> <li>Interpret and Order Absolute Value</li> <li>Using a Coordinate Plane, Identify and Plot Ordered Pairs</li> </ul>	<ul style="list-style-type: none"> <li>Find Area and Volume</li> <li>Solve Real-World Problems by Plotting Points and Using Them to Draw Polygons</li> </ul>	N/A
<ul style="list-style-type: none"> <li>Add, Subtract, Multiply, and Divide Rational Numbers</li> <li>Convert Rational Numbers to Decimals</li> </ul>	<ul style="list-style-type: none"> <li>Draw Geometric Shapes and Scale Drawings</li> <li>Find Area and Circumference of Circles</li> <li>Identify Nets for Solid Figures</li> <li>Use Nets to Find Surface Areas of Solids</li> <li>Solve Problems with Area, Circumference, Volume, and Surface Area</li> </ul>	N/A
<ul style="list-style-type: none"> <li>Recognize and Compare Irrational Numbers</li> <li>Apply Properties of Exponents to Compare Irrational Numbers</li> <li>Use Exponents in Large and Small Numbers and in Scientific Notation</li> <li>Use Square Roots and Cube Roots</li> </ul>	<ul style="list-style-type: none"> <li>Dilate Figures Using Coordinates</li> <li>Translate Figures Using Coordinates</li> <li>Rotate Figures Using Coordinates</li> <li>Reflect Figures Using Coordinates</li> <li>Use Angle Relationships with Parallel Lines and Triangles</li> <li>Explain the Pythagorean Theorem</li> <li>Use the Pythagorean Theorem to Solve Mathematical and Real-World Problems</li> </ul>	<ul style="list-style-type: none"> <li>Understand Functions</li> <li>Compare Properties of Functions</li> <li>Analyze and Sketch Graphs of Functions</li> </ul>

# MATHEMATICS STUDENT SAMPLE



## PART 1

Introduction and Break Down the Skills

Independent Practice—2 Levels

## Guided Instruction PART 2

### Lesson 1 Understand Ratios

#### Introduction

What Will I Learn?

- How do you describe unit rates?
- How do you create tables of equivalent ratios and plot pairs on the coordinate plane?

You can use ratios to describe a school election. If you say that a person won by a vote of 37 to 26, you're using a ratio!

#### Break Down the Skills

A **rate** compares two quantities with different units of measurement.

- You can write a rate in words or as a fraction.
- Here are some examples of rates.

\$10 for 5 notebooks  
or  
\$10  
5 notebooks

3 cups of oats for 4 servings  
or  
3 cups of oats  
4 servings

60 miles in 2 hours  
or  
60 miles  
2 hours

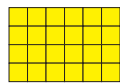
#### Guided Instruction

Area is a measure of the amount of space taken up by a plane figure. One way to measure area is by using unit squares. A unit square is a square that has a side length of 1 unit.



The unit of a unit square can be any unit of length, such as inches or centimeters.

- One way to find the area of this rectangle is by counting the number of unit squares inside it.
- Another way to find area is to count the number of unit squares in each row and column. Then multiply the number of rows by the number of columns.



There are each row has \_\_\_\_\_ unit squares and each column has \_\_\_\_\_ unit squares.

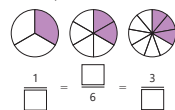
The area of the rectangle is \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_ square units, which is the same answer you get by counting.

Count the unit squares. \_\_\_\_\_ unit squares.

Some areas are fractions instead of whole numbers.

When working with fractions, it often helps to write equivalent fractions. Equivalent fractions are fractions that have the same value even though they have different numbers in them.

Use the model to fill in the equivalent fractions.



## PART 4

Exit Ticket

#### Exit Ticket

A snowstorm lasted for 5 hours. When the storm ended, 10 inches of snow had fallen. The same amount of snow fell each hour.

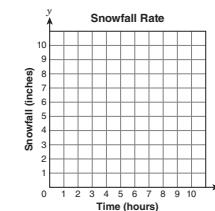
What is the unit rate of snowfall in inches per hour?

\_\_\_\_\_ inches per hour

Complete the ratio table to show the number of inches of snow during each of the first 4 hours.

Time (hours)	Snowfall (inches)
1	
2	
3	
4	
5	10

Create ordered pairs from the ratio table and plot them on the coordinate plane.



#### Independent Practice

Answer the questions that follow.

##### Practice 1

1 What is the ratio of shaded parts to unshaded parts?



- A 7 to 12
- B 5 to 7
- C 7 to 5
- D 12 to 7

2 Each place setting contains 2 forks and 1 spoon. Circle the ratios that are equivalent to the ratio of forks to spoons. Select the three correct answers.



Start by finding the unit rate of forks to spoons.

3 Complete the table to show ratios that are equivalent to  $\frac{3}{4}$ .

First Value	Second Value
3	4
	20

##### Practice 2

1 What is the ratio of all parts to unshaded parts? Express your answer in simplest form.



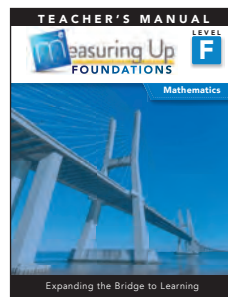
2 Complete the table to find equivalent ratios for the ratio 5 to 6.

First Value	Second Value
5	6
10	
	24
30	

Use the same steps that you would use to find equivalent fractions to find equivalent ratios.

3 Emmanuelle skips rope 105 times in 3 minutes. Rochelle skips rope 120 times in 4 minutes. What unit rate describes each friend's skipping?

# MATHEMATICS TEACHER SUPPORT SAMPLE



## Mathematics Level F, Lesson 1

### TEACHER GUIDE

#### Lesson 1 Understand Ratios

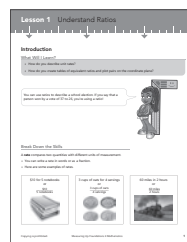
##### At-a-Glance

Learning Objectives	Review Skills
<ul style="list-style-type: none"> <li>Describe unit rates.</li> <li>Create tables of equivalent ratios and plot pairs on the coordinate plane.</li> </ul>	<ul style="list-style-type: none"> <li>Find area using unit squares.</li> <li>Find equivalent fractions.</li> </ul>
Academic Vocabulary	Why Students May Struggle
rate    unit rate    ratio    equivalent ratio ordered pair    x-coordinate    y-coordinate origin	Students may list ratios that are not equivalent before finding ordered pairs. Students may add or subtract instead of multiplying or dividing to find equivalent ratios.

#### WHAT WILL I LEARN?

##### ACTIVATING PRIOR KNOWLEDGE

- Draw and shade a two-dimensional shape on the board, such as a square or rectangle. Remind students that the size of the shaded space is area.
- Invite students to brainstorm examples of real-life situations involving area, such as the area of a wall for painting and the area of a floor for carpeting.
- Remind students that one way they learned to measure area is by using unit squares. Distribute prepared unit squares to pairs or small groups of students. Have them use the unit squares to measure an area, such as the area of a notebook cover or desktop. Allow students to share their results, and encourage them to use correct units depending on the size of each unit square. Invite volunteers to explain how they found area, and lead students to recognize that they can use multiplication. As needed, model how to count unit squares for length and width and use them to find the product.
- Remind students that they have worked with fractions.
- Draw a fraction model on the board, such as a rectangle divided into 3 parts. Shade 1 part and write  $\frac{1}{3}$  next to the model. Explain that the fraction shows 1 shaded part out of 3 total parts.
- Beneath the rectangle, draw another rectangle with the same size but this time divide it into 6 parts. Shade 2 parts in such a way that the shaded part aligns with the shaded part of the rectangle above it. Invite a volunteer to write a fraction to describe this model. Lead the student to write  $\frac{2}{6}$ .



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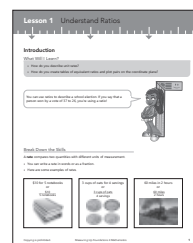
#### Lesson At-a-Glance Review

### PART 1 Student Lesson

#### BREAK DOWN THE SKILLS

##### TEACH ACADEMIC VOCABULARY

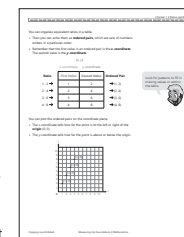
- Read the information about **rates** together. Explain that a rate compares two quantities with different measurement units.
  - Point out that a rate can be written using words or as a fraction.
  - Discuss that measurement units in rates can be units of measure, such as feet or hours, or they can also be a number of items, such as 5 lemons.
  - Invite volunteers to read aloud each of the examples shown.
- Together, read the definition of **unit rate**. Ensure students understand that in a unit rate, the second measurement is 1 unit.
  - Explain that a rate can be written as a unit rate by using division or multiplication. Walk through the example provided by explaining that dividing each measurement by 2 results in a unit rate. Mention that the numeral 1 does not have to be written before the unit of measurement, but it is shown here for clarity.
  - Work with students to determine the unit rate for each of the rates presented above. [\$2 per notebook, 0.75 cup of oats per serving, 30 miles per hour]
- Together, read the definition of **ratio**. Note that *ratio* is a more general term than *rate*. Explain that there are two types of ratios.
  - As a group, read through the description of part-to-part ratios. Use the model to show that one ratio describes the 3 shaded parts to the 2 unshaded parts.
    - Have students highlight the three ways to write this ratio.
    - Direct students to read the hint, and then challenge them to write the ratio of unshaded parts to shaded parts in three different ways.
  - Point out that corresponding part-to-part ratios are reciprocals of each other. Tell students that you can find a reciprocal by "flipping" the order of the values in a ratio.
- Now read through the description of part-to-whole ratios together. Make sure students recognize that, in this situation, the difference between the part-to-part and part-to-whole ratios is the second quantity.
  - Again use the model to show that one ratio describes 3 shaded parts to the whole, which is 5 total parts.
  - Challenge students to describe the model using a different part-to-whole ratio. Lead them to recognize that they can write 2 unshaded parts to 5 total parts, which is 2 to 5,  $2 : 5$ , or  $\frac{2}{5}$ .
  - Discuss that while a ratio can be written using a separating bar, it is only a true fraction if it names a part to a whole.



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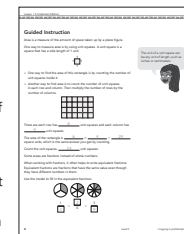
#### Lesson 1 • Understand Ratios

- Read aloud the definition of **equivalent ratios** and then invite volunteers to describe them in their own words.
- Point out that the model shows the same ratio of uneaten pie to the total pie in all three images. Explain that the difference is the number of parts in each image. Show students that the three ratios, therefore, have the same value.
- Read together the information about **ordered pairs**.
  - Remind students that they have learned about ordered pairs before when plotting points. Review that the first value is the **x-coordinate** and the second value is the **y-coordinate**.
- Work together to follow the process for writing the ratios as ordered pairs.
- Ask students to each put a finger on the **origin** on the coordinate plane.
  - Discuss how the x-coordinate indicates the distance from the origin along the x-axis and the y-coordinate indicates the distance from the origin along the y-axis.
  - Guide students to plot the ordered pair (1, 2) by moving 1 unit to the right of the origin and then 2 units above that point. Then repeat for the other ordered pairs.



#### GUIDED INSTRUCTION

- Guide students through each activity. Read and discuss all the tips in conjunction with the related activities.
- Open the discussion with a review of area.
    - Confirm that students understand that area is the measure of the inside region of a plane figure and that area is measured in square units.
    - Clarify with students that area can be measured by using congruent unit squares. Explain that the units can be any unit of length, but they must all be the same.
  - Together, work through the steps for finding the area using a rectangular grid made of unit squares.
    - Discuss that area can be found by counting the unit squares or by multiplying the number of rows by the number of columns.
    - Remind students that a row goes across horizontally. Tell students to count the number of unit squares in each row and enter it in the blank. Then have them repeat for each column, making sure they understand that columns go up and down vertically.
    - Have students complete the equation that is used to find the area of the rectangle.
    - Ask students to count the number of unit squares to confirm the area they found using multiplication.
  - Point out that when finding the area of rectangles, it is possible for the lengths and widths to be fractional values. Explain that for this reason, it is important to review what students know about fractions.



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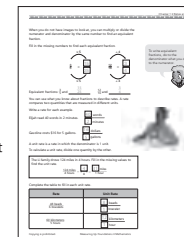
#### Common Error Analysis

- Remind students that a fraction compares a number of parts to the total number of parts in the same whole.
- Review that the top, or numerator, of a fraction shows the number of parts and the bottom, or denominator, shows the total number of parts in the whole.
- Say aloud the word *equivalent* and explain that it means "the same." Point out that equivalent fractions have the same value.
- Direct students to the model that shows equivalent fractions. Make sure they realize that the numerator in each fraction describes the number of shaded parts, and the denominator describes the total number of parts for each fraction circle.
- Ask students to fill in the missing values to show the equivalent fractions. Review their answers as a group.

##### Common Errors

Some students may find the model of equivalent fractions confusing or think that it shows different amounts because each circle is divided into a different number of parts. To help alleviate this confusion, draw a circle where all students can see. Divide the circle into fourths, shade  $\frac{1}{4}$ , and discuss. Then draw additional lines to divide the same circle into eighths. Discuss that  $\frac{2}{8}$  are now shaded, but that the size of the shaded portion has not changed.

- Explain that you can find an equivalent fraction by multiplying the numerator and denominator by the same number.
  - Begin by directing students to look at the example on the left. Tell students to multiply the numerator, 3, by 5, and fill in the product they find as the numerator of the equivalent fraction.
  - Then tell them to multiply the denominator, 5, by 5, and fill in the product they find as the denominator of the equivalent fraction.
  - Tell students that three-fifths is equivalent to fifteen twenty-fifths and have students fill in the value in the sentence below the problem.
  - Then tell students that they can also find equivalent fractions by dividing. Ask them to divide 12 and 16 by 4 to find an equivalent fraction. Have them fill in the missing values.
- Discuss how students can use what they know about fractions to learn about rates. As a group, read the definition of rate.
  - Invite a volunteer to read aloud the description of Elijah's reading rate and have students fill in the numbers.
  - Then have students fill in the rate for the cost of gasoline. Confirm their responses.



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### PART 2 Student Lesson

#### Lesson 1 • Understand Ratios

- Read aloud the unit rate problem about the Li family.
- Have students fill in the missing values. If students struggle, remind them that they must divide the numerator and denominator by the same number.
- Mention that the answer would still be correct without writing the 1. Remind students that if they see a unit of measure without a number, they know that the number is 1.
- Have students complete the table to write unit rates from the given rates. Review as a group.

##### Common Errors

Some students may be confused by how unit rates differ from rates in general. Work with them to brainstorm unit rates they might encounter in their daily lives, such as prices at the store or speed limit signs on the road. Challenge them to find examples then have students describe examples of unit rates in their own words.

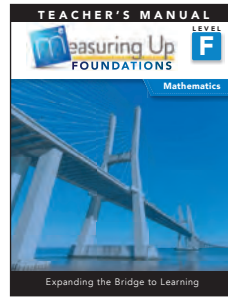
- Discuss with students the difference between a rate and a ratio.
  - Have students give examples of rates and then ratios.
  - Explain that a ratio can be written in the forms:  $a$  to  $b$ ,  $a : b$ , and  $\frac{a}{b}$ .
- Explain that some ratios, known as part-to-part ratios, compare one part of a whole to another.
  - Direct students to look at the model of the diamond shapes. As a group, determine that there are 4 shaded parts, 2 unshaded parts, and 6 total parts.
  - Ask students to fill in the ratios and then say them aloud.
- Explain that other ratios compare parts to the whole or the whole to parts.
  - Ask students to fill in the ratios and then say them aloud.
- Discuss that writing equivalent ratios is the same as writing equivalent fractions.
  - As a group, work through the examples of apples and oranges. Have students fill in the values. When finished, explain that the models show equivalent ratios. Explain that the first model shows 2 apples for 3 oranges, which is a ratio of 2 to 3. Then explain that the second ratio shows twice as many apples and oranges, which is a ratio of 4 to 6.
  - Point out that you can find equivalent ratios using multiplication and division. Remind students that they must multiply or divide both numbers in a ratio by the same amount. Direct them to fill in the missing values to complete the equivalent ratio statements.

##### Common Errors

When students see a ratio such as 2 : 3, some of them may attempt to find an equivalent ratio by adding the same number to the numerator and denominator. For example, they may think 2 : 3 is equivalent to 4 : 5 because they added 2 to both the numerator and denominator. Remind students that the Identity Property of Multiplication states that the *product* of a factor multiplied by 1 is equivalent to the factor. Write a ratio on the board where all students can see, such as  $\frac{2}{3}$ . Draw arrows from the numerator and denominator of the ratio with a multiplication sign near the arrows. Have a volunteer write the same number next to each multiplication sign and then write the equivalent ratio. Repeat with more ratios until students feel comfortable with this concept.

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# MATHEMATICS TEACHER SUPPORT SAMPLE



Mathematics  
Level F, Lesson 1

**PART 4**  
Student  
Lesson

**PART 3**  
Student  
Lesson

Lesson 1 • Understand Ratios

### INDEPENDENT PRACTICE

Practice 1 Questions

- Read the questions aloud and have students select or provide the answers independently. Review the answers.

Practice 2 Questions

- Ask students to read the questions to themselves and select or provide the answers independently. Review the answers.

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Level F

**Guidance included for each activity—**  
Guided Instruction  
Independent Practice—2 Levels  
Exit Ticket

**End of lesson—**  
additional support  
for struggling learners and English  
language learners

Lesson 1 • Understand Ratios

### EXTENSION ACTIVITIES

- Challenge students to write part-to-part and part-to-whole ratios using different sets, such as consonants and vowels, or classroom objects, such as books.
- Have partners generate their own word problems that include unit rates. Suggest that they write problems about buying clothes, saving money, hiking, or other situations that form rates. Point out that they could also increase the number of servings in a recipe. Encourage pairs to exchange their problems with another pair and solve.
- Invite students to discuss why equivalent fractions cannot be formed by adding or subtracting the same number to the numerator and denominator.

**EXTENSION ACTIVITIES**  
for every lesson

For students who need more, teachers can choose the extra activities specific to lesson skills. Copymasters included.

Chapter 1 • Ratios and Rates

### EXIT TICKET

- Have students fill in the Exit Ticket. Read through the word problem together. Make sure students understand that they have been provided a rate that can be used to write equivalent ratios. Clarify that the equivalent ratios can then be translated into ordered pairs that they are to plot on the coordinate plane.

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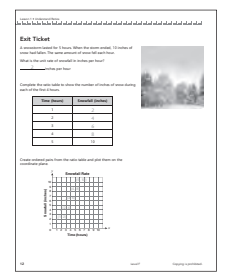
### ADDITIONAL SUPPORT

#### SUPPORT FOR STRUGGLING LEARNERS

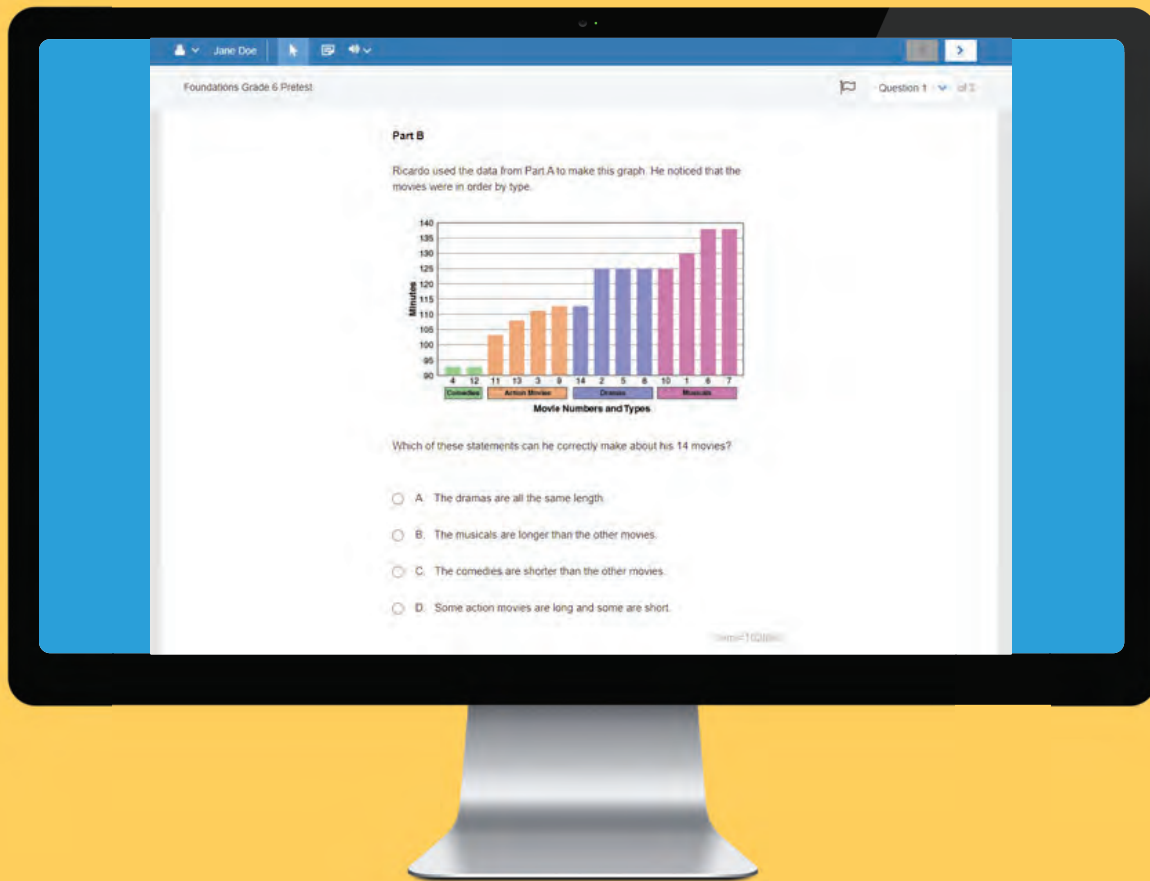
- For students who struggle with accurate multiplication or accurate division, provide a multiplication table to check their work when finding equivalent ratios or unit rates.
- Give students counters or tiles to practice writing ratios. Have students draw the counters or tiles, and then write part-to-part, part-to-whole, and whole-to-part ratios. Students can then share their drawings with a partner and challenge the partner to write the ratios. The students can then compare their answers and correct any differences.
- Some students are likely to struggle with making and organizing sets of equivalent ratios. Give such students extra practice writing equivalent ratios by completing Copy Master 1 at the end of these teacher notes. Make a copy of the master, insert a ratio at the top of each of the two tables, and make your student copies. By providing different starting ratios, the activity can be completed over and over and be a different activity each time.

#### SUPPORT FOR ENGLISH LEARNERS

- English learners might be confused about the difference between *unit squares* and *square units*. Point out that while the names are similar, they are not the same. Explain that unit squares are used to tile a rectangle and identify the area and square units are the units of measurement for area. Have students draw a diagram and label the area in square units and shade a unit square.
- English learners may struggle with the vocabulary for plotting points in a coordinate system. Have students create flashcards for the terms *coordinate plane*, *origin*, *ordered pair*, *x-axis*, *y-axis*, *x-coordinate*, and *y-coordinate*.
- Spanish cognates: equivalent/equivalente, fraction/fracción, area/área, coordinate/coordinar, unit/unidad



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