



**Bluebonnet
Learning**
K-5 Math
EDITION 1

ENGLISH

Grade 4

Course Guide

TEACHER EDITION

Course Guide

K–5 Math Grade 4

Acknowledgment

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Notice

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Introduction

Welcome to the Grade 4 Course Guide. This guide is designed to give Grade 4 teachers specific knowledge about the structure of the instructional materials to help them effectively transition into the program. Included in this guide is information about standards, assessment tools, the focus of each module, and ways for families to support students at home. This guide also provides information about how to tailor the culture of learning to the developmental needs of students, including a background on developmental advances that affect how students learn in Grade 4 and practical strategies for troubleshooting misconceptions collaboratively with students.

Profile of a Grade 4 Math Learner

Grades 2 through 4 cover a period when students' math abilities are rapidly changing, growing, and starting to come together. Their motor skills, estimation abilities, abstract reasoning, self-regulation, and peer interaction skills need to be coordinated for them to be successful with the instructional materials. Often, this means that students may become confused or solve problems incorrectly because one or more of the requisite skills are still developing. For example, students with developing motor skills may have difficulty with manipulating tiles during activities that teach arrays.

Students at these grade levels are also at the very beginning of developing their abstract reasoning abilities. For this reason, students can find it challenging to reason about inequalities with different units (e.g., that 10 cm is smaller than 5 m, despite 10 being a larger whole number than 5) or inequalities with different place values (e.g., that 900 is less than 1,100, even though 9 is greater than 1). Students' concrete and rule-based reasoning can also make it more challenging for them to grasp key principles in arithmetic (e.g., that 3×6 is the same as 6×3).

In grades 2 through 4, many students are still developing into fluent readers, which might cause them to focus on certain terms in a word problem and ignore the rest of the context (e.g., they look for the word *total* and then add the numbers in the problem). In addition, students' self-control is still developing. This might cause students to rush to solve problems and write down the first answer they think of.

These emerging skills need to be coordinated to solve math problems correctly. As a result, teachers of students in this age range play an important role in helping young math learners learn the math content and in laying a foundation for number sense, arithmetic, problem solving, and more. This work will prepare students for more complex and representational math later in the instructional materials. This means that teachers need to look at the underlying reasons why a student might have gotten a problem wrong—whether it is an abstract reasoning skill, a literacy skill, or an impulsivity issue—and tailor instruction appropriately.

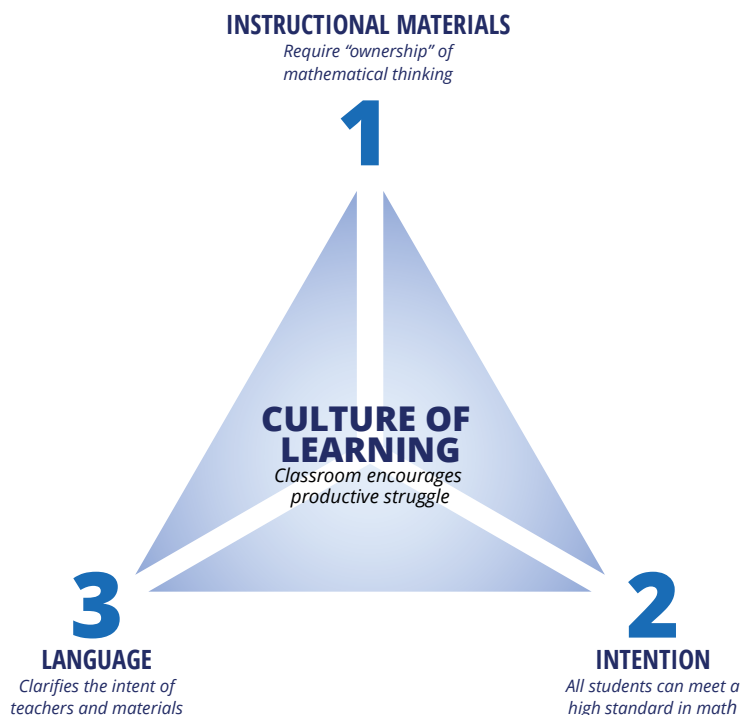
The modules in the *Bluebonnet Learning K–5 Math* instructional materials are designed to effectively help teachers analyze students' work and provide the instructional support that best meets students' needs. The activities support students' developmental needs by identifying student misconceptions and providing guidance to address these misconceptions. This ensures that students can move away from an algorithmic, rule-based version of math—which can often lead them astray as the concepts become more complex—toward a more holistic competence with mathematical reasoning. For example, teachers are encouraged to have students work in small groups on problems and explain their reasoning to one another. This approach allows teachers and students to identify and correct misconceptions as they arise.

For students to benefit from the *Bluebonnet Learning K–5 Math* instructional materials approach, they need to be provided with opportunities to engage in productive struggle. This means that students boldly and confidently learn to confront mistakes, reframe them into learning opportunities, and then move forward, deepening their mathematical reasoning throughout the year. One of the best ways to encourage students to embrace productive struggle is to promote a classroom culture of learning. A culture of learning is one in which students embrace the process of productive struggle. It is also a culture free from the common idea that “fast at math = good at math.” By creating a culture of learning and encouraging students to view challenges as an expected and even desirable part of the learning process, teachers can help students avoid a fear of math that could undermine the mathematical future of many students. Instead, students can start enjoying and feeling confident in math even if their answers do not always come quickly.

Culture of Learning in Grade 4

As noted in the Program and Implementation Guide, the way to engage math learners and help them embrace the productive struggle that’s needed to learn deeply is to create a culture of learning.¹ As shown in the figure below, a culture of learning rests on a foundation of (1) high-quality instructional materials, (2) a teacher’s intentions, and (3) the language that communicates the intent of teachers and materials.

A culture of learning can be created beginning on the first day of Module 1. A teacher can use language that communicates their intent for all students to be supported as they are held to a high standard for learning.²



¹ Yeager. *10 to 25*, 2024.

² Cohen, Steele, and Ross, “The Mentor’s Dilemma,” 1999.



A culture of learning can also be maintained throughout the year since teachers will continue to support math learners as they embrace challenge. For example, teachers can use language that clarifies their intent of assigning the rigorous challenges students will face in the instructional materials.

A challenge for teachers is that it can take longer to use language that supports a culture of learning. However, using language that communicates a culture of learning supports students' developmental needs and learning. In contrast, language that communicates a culture of compliance can undermine students' motivation and engagement because it doesn't fit with their developmentally appropriate desire for autonomy and understanding.³

Teacher Behavior	Language that Communicates a <i>Culture of Compliance</i>	Language that Communicates a <i>Culture of Learning</i>
Introduce the next activity in the lesson plan.	Do this next. You'll get a bad grade if you don't.	This next activity will help you understand the material better because _____.
Give students a set of problems that they aren't supposed to finish perfectly in the allotted time (e.g. Sprint).	Just do your best.	Most of you won't answer all these problems and you might not get them all correct. That's okay. I'm trying to challenge you so that I can learn what you're prepared to do and what I need to teach you next.
Ask students to explain their thinking on a problem answered incorrectly.	Tell me why you got this wrong.	I'd like you to explain your thinking about this answer. It will help me know how to explain the concept in a way that will be more helpful to you. There is a good chance that somebody else made the same mistake, so your thinking can help the whole class learn.

The language in the second column promotes a culture of compliance. Students in grades 2 through 5 are likely to perceive this as disrespecting their need for autonomy and independent thinking.

The language in the third column promotes a culture of learning because it supports students' autonomy. It implies that students can own their thinking and that they deserve valid explanations. This approach can help students feel respected and cause them to be more motivated and engaged.

³ Ruck, Abramovitch, and Keating. "Children's and Adolescents' Understanding of Rights," 1998.

Collaboratively Troubleshooting Student Misconceptions

It is common for students to make mistakes as they build their understanding of new or difficult concepts. From a student perspective, mistakes can logically occur whenever students try to apply previous learning to new problems that require a different approach. To help students correct their thinking and develop a better understanding, teachers can identify the knowledge that students are building on when they make a mistake.

The *Bluebonnet Learning K–5 Math* instructional materials list common student mistakes for each module. Teachers can use this information to troubleshoot mistakes collaboratively with students.

As noted in the Program and Implementation Guide, *collaborative troubleshooting* is a routine to help teachers address students' misconceptions. The three steps to collaborative troubleshooting are

- (1) surface student thinking;
- (2) validate what the student did right; and
- (3) bridge to a better understanding.

In Step 1, it's helpful to ask questions to better understand what the student was thinking when they made a decision. For example, the teacher can ask, "Can you tell me more about your thinking on this problem?" or "I noticed you wrote _____. What were some of your reasons for doing that?"

In Step 2, it's helpful to point out the parts of the problem that the student understood or did correctly. That way, the student maintains their successful thinking as they retry a problem. For example, teachers can say "I noticed you did _____ and wrote _____, and that's great because that means you understood _____."

Last, in Step 3, the teacher can build on the student's assets and bridge to a better understanding. It can help to ask guided questions that invite the student to build a stronger understanding. For example, the teacher can ask the following questions:

- "If you keep _____ [correct thinking] and changed _____ [misconception] to _____ [alternative], then what do you think might happen?"
- "What would happen if you did _____ instead of _____?"
- "If _____ [correct thinking] is true, then how does that thinking affect _____ [misconception]?"

In practice, this routine may look and sound like the following teacher–student dialogue, which is based on a misconception for Grade 4 Module 1 Topic F that is listed in the Module Overview.

Note: Teachers can adapt this sample dialogue to other misconceptions listed in the Module Overview.



Scenario: A student makes an error on a multi-step word problem involving addition and subtraction, such as with the following example.

In one year, a factory used 11,650 meters of cotton. They used 4,950 fewer meters of silk than cotton and 3,500 fewer meters of wool than silk. How many meters in all were used of the three fabrics?

The student believes that the question “How many meters in all?” means the three numbers shown in the problem should be added together without considering what each number represents. The teacher has a one-on-one discussion with the student.

Step 1: Surface student thinking.

T: Why did you decide to add 11,650, 4,950, and 3,500?

S: The question is asking “How many meters in all?” So, I added the three numbers to find the total.

Step 2: Validate what the student did right.

T: Yes, the problem is asking you to find the total meters of fabric used. Let’s read the information given in the problem about each number again.

S: A factory used 11,650 meters of cotton. They used 4,950 fewer meters of silk than cotton and 3,500 fewer meters of wool than silk.

Step 3: Bridge to a better understanding.

T: What do you notice about the numbers? Do we know the length of each type of fabric?

S: The length of cotton is 11,650 meters. The amounts of the other fabrics are based on the amounts of cotton. We don’t know the length of silk or wool.

T: Let’s draw a strip diagram to represent the length of each type of fabric. First, read what the problem says about cotton. How can you represent that in a strip diagram?

S: I can draw a strip for cotton and label it 11,650. (Draw.)

T: Read what the problem says about the amount of silk. How can you represent that in the strip diagram? How does it compare to cotton?

S: I can draw a shorter strip for silk and label the difference between cotton and silk as 4,950. (Draw.)

T: Read what the problem says about the amount of wool. How can you represent that in the strip diagram? How does it compare to the other parts of the diagram?

S: I can draw a strip for wool that is shorter than the silk strip and label the difference between silk and wool as 3,500. (Draw.)

T: What does the strip diagram show you about how to find the amount of silk used?

S: I can subtract 4,950 from 11,650 to find the amount of silk used.

T: What does the strip diagram show you about how to find the amount of wool used?

S: I can subtract 3,500 from the amount of silk used.

S: (Subtracts and labels the strip diagram with the amounts of silk and wool used.)

T: How will you find how many meters of fabric used in all?

S: Now I know the amounts of silk and wool used. I can add the amounts of all three fabrics to find the total.

Assessment Reflection Tool

An assessment reflection can be powerful in helping to surface student thinking and in helping students to monitor and track their own growth. It can also help students anticipate and process any thoughts they may have about completing an assessment.

The Assessment Reflection Tool can help teachers guide discussions both prior to and after an assessment. These discussions help the teacher promote a culture of productive struggle as students go into testing. These discussions also support students' needs after testing and give students the opportunity to reflect on their progress and learn from their mistakes after an assessment.

Grades 2–5				
		Teacher Says or Does	Students Say or Do	Teacher Says or Does
Pre-assessment	Opening Discussion	Hand out the Assessment Reflection. Say, “As we prepare to complete this assessment, take a moment to reflect on your learning and what you are thinking in anticipation of the assessment.” Encourage quiet reflection during this time. Ask, “What are you thinking? Write down your thoughts in the top box of your Assessment Reflection.”	Read their responses aloud to a partner to help them be comfortable sharing out in a larger group.	Say, “I have heard a lot of your responses. Whatever you may be thinking, I want you to remember that this assessment is just one part of your learning journey.” Say, “Remember, an assessment is just a way for me to see where you are in your learning so that I can better support you.”
	Item and Content Analysis	Direct students to complete the assessment. Say, “Before you answer the assessment questions, look at each one and write a plus sign next to any questions you think you will get right. Write a minus sign next to any questions you feel unsure about. Say, “After you answer each question, feel free to go back and change any plus or minus signs. You may be unsure of a question at first glance but then find that you have the tools to solve it. Also, you may believe a question will be simple but then face difficulties when solving it.”	Complete their item analysis as they take their assessment. This will be used for the post-assessment analysis.	Monitor student responses as students complete the assessment. After the assessment, review each student’s Assessment Reflection to keep track of student confidence level trends.



Grades 2–5				
		Teacher Says or Does	Students Say or Do	Teacher Says or Does
Post-assessment	Reflection	Hand back each student’s assessment. Say, “I see a lot of things for you to be proud of, like all the work you did. Remember, this assessment is just a tool that we can use to help you know where you are along your learning journey.” Say, “I am going to give you 1 minute to write down everything you’re thinking now that you’ve taken the assessment. You will not share these reflections with other students. I will be the only one who reads them.” Consider providing a list of words to help students identify their reflections.	Take time to complete the reflection freewrite. Complete the “After the assessment” questions in the Assessment Reflection. [Note: Some students may have very clear responses, and some may need support with identifying their thoughts.]	Walk around and monitor student responses. Take the opportunity to have one-on-one conversations with any students who need support with identifying their reflections. Say, “I can see you wrote ____ about your assessment. Why?” Listen to and acknowledge student responses. Say, “We are going to work together to help you understand where the mistakes came from. Mistakes are important because they help us grow.”
	Honoring Mistakes	Say, “Let’s dive into our mistakes together. Work with your group to complete the table on your Assessment Reflection.” Invite students to select 1 or 2 questions from their Assessment Reflection. For each question, direct them to fill out a row in the table.	Write down their question choice(s) and work with their groups to complete their item analysis.	Collect Assessment Reflections and discuss specific questions with groups or individual students. Say, “I saw a lot of things to be proud of. I saw all the work and the thinking that you put into this assessment. It is also okay for you to be confused or unsure about some items on the assessment. We will work together to help you keep improving your knowledge and understanding.” Use collaborative troubleshooting to help guide students through their assessment and clear up any misconceptions.





Student Name: _____ **Date:** _____

As we prepare to complete this assessment, what are you thinking?				
Question	What were your reflections on this question during the assessment?	If the question you answered incorrectly was confusing, why was it confusing?	What did you know or what were able to do?	What will you remember for next time?
		• I didn't know where to start. • I wasn't sure what the question was asking. • The visual (picture, chart, map, etc.) confused me. • I forgot the content. • There were words I didn't know.		
		• I didn't know where to start. • I wasn't sure what the question was asking. • The visual (picture, chart, map, etc.) confused me. • I forgot the content. • There were words I didn't know.		
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		• I didn't know where to start. • I wasn't sure what the question was asking. • The visual (picture, chart, map, etc.) confused me. • I forgot the content. • There were words I didn't know.		
Now that you are done with the assessment, what are you thinking?		What are some things you can do differently to prepare for the next assessment?		

Progression of Mathematical Concepts

	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	1st QUARTER	2nd QUARTER	3rd QUARTER	4th QUARTER
	M1: Numbers to 10 (41 days)	M1: Sums and Differences to 10 (43 days)	M1: Sums and Differences to 100 (9 days) M2: Addition and Subtraction of Length Units (11 days)	M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10 (22 days)	M1: Place Value, Rounding, and Algorithms for Addition and Subtraction (23 days)	M1: Place Value and Decimals (19 days)				
	M2: Two-Dimensional and Three-Dimensional Shapes (10 days)	M2: Introduction to Place Value Through Addition and Subtraction Within 20 (33 days)	M3: Place Value, Counting, and Comparison of Numbers to 1,200 (22 days)	M2: Place Value and Problem Solving with Units of Measure (31 days)	M2: Unit Conversions and Problem Solving with Metric Measurement (10 days)	M2: Multi-Digit Whole Number and Decimal Operations (37 days)				
	M3: Comparison of Length, Weight, Capacity, and Numbers to 10 (33 days)	M3: Ordering and Comparing Length Measurements as Numbers (13 days)	M4: Addition and Subtraction Within 200 with Word Problems to 100 (30 days)	M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10 (26 days)	M3: Multi-Digit Multiplication and Division (38 days)	M3: Addition and Subtraction of Fractions (18 days)				
	M4: Number Pairs, Addition and Subtraction to 10 (44 days)	M4: Place Value, Comparison, Addition and Subtraction to 40 (23 days)	M5: Addition and Subtraction Within 1,000 with Word Problems Within 1,000 (23 days)	M4: Multiplication and Area (10 days)	M4: Angle Measure and Plane Figures (20 days)	M4: Multiplication and Division of Fractions (30 days)				
	M5: Numbers 10–20, Counting to 100, and Understanding Work (31 days)	M5: Identifying, Composing, and Partitioning Shapes (18 days)	M6: Foundations of Multiplication, Division, and Area (22 days)	M5: Fractions as Numbers on the Number Line (36 days)	M5: Fraction Equivalence, Ordering, and Operations (35 days)	M5: Addition and Multiplication with Volume and Area (23 days)				
	M6: Analyzing, Comparing, and Composing Shapes (6 days)	M6: Place Value, Comparison, Understanding Income with Addition and Subtraction to 100 (35 days)	M7: Problem Solving with Length, Money, and Data (29 days)	M6: Financial Literacy and Data (17 days)	M6: Introduction to Decimals and Financial Literacy (22 days)	M6: Problem Solving with the Coordinate Plane and Data (38 days)				
			M8: Time, Shapes, and Fractions as Equal Parts of Shapes (19 days)	M7: Geometry and Measurement Word Problems (23 days)	M7: Exploring Measurement with Multiplication and Data (17 days)					

Key:

Number	Geometry	Number and Geometry, Measurement	Fractions
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Sequence of Grade 4 Modules Aligned with the TEKS

Module 1: Place Value, Rounding, and Algorithms for Addition and Subtraction

Module 2: Unit Conversions and Problem Solving with Metric Measurement

Module 3: Multi-Digit Multiplication and Division

Module 4: Angle Measure and Plane Figures

Module 5: Fraction Equivalence, Ordering, and Operations

Module 6: Introduction to Decimals and Financial Literacy

Module 7: Exploring Measurement with Multiplication and Data

Summary of Year

Grade 4 mathematics is about (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators; and (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular line segments, particular angle measures, and symmetry.

Rationale for Module Sequence in Grade 4

In Grade 4, students extend their work with whole numbers. They begin with large numbers using familiar units (hundreds and thousands) and develop their understanding of billions by building knowledge of the pattern of *times ten* in the base-ten system on the place value chart. In Grades 2 and 3, students focused on developing the concept of composing and decomposing place value units within the addition and subtraction algorithms. Now, in Grade 4, those compositions and decompositions are seen through the lens of multiplicative comparison (e.g., 1 thousand is 10 times as much as 1 hundred). Students next apply their broadened understanding of patterns on the place value chart to compare, round, add, and subtract. The addition and subtraction algorithms then become efficient and useful applications of students' knowledge of and skill with composing and decomposing higher value units. The module culminates with solving multi-step word problems involving addition and subtraction modeled with strip diagrams that focus on numerical relationships.

The addition and subtraction algorithms continue to play a part in Module 2 as students relate place value units to metric units. This module helps students draw similarities between the following:

1 ten	= 10 ones
1 hundred	= 10 tens
1 hundred	= 100 ones
1 meter	= 100 centimeters
1 thousand	= 1,000 ones
1 kilometer	= 1,000 meters
1 kilogram	= 1,000 grams
1 liter	= 1,000 milliliters



Students work with metric measurement as a context for using the addition and subtraction algorithms, mental math, place value, and word problems. (Customary units are used as a context for fractions in Modules 5 and 7.) Students extend their knowledge from Grade 3 to use input–output tables and numerical expressions to represent number patterns and the relationship between the position of a number in a pattern and the value of that number.

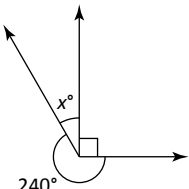
In Module 3, measurement of perimeter and area provide the concrete foundation behind the distributive property in the multiplication algorithm. For example, $4 \times (1 \text{ m } 2 \text{ cm})$ can be modeled concretely using ribbon, since students can see the 4 copies of 1 meter and the 4 copies of 2 centimeters. Likewise, $4 \times (1 \text{ ten } 2 \text{ ones}) = 4 \text{ tens } 8 \text{ ones}$. Next, students use place value disks to develop efficient procedures and models that lead to using the algorithms for multiplying by one-digit whole numbers. They understand and explain why the procedures work, and they make connections between the area model and work on the place value chart. Building on their knowledge of division types (*group size unknown* and *number of groups unknown*), students represent division with arrays and the area model, before practicing with place value disks and then the standard division algorithm. Interpreting remainders, both in word problems and long division, is a focus of this work. Finally, two-digit by two-digit multiplication is modeled using the area model, extending students' earlier experiences with measurement and the distributive property. Throughout the module, students also solve word problems where they select and accurately apply appropriate methods to estimate, mentally calculate, or use written strategies to compute products and quotients.

Module 4 focuses on solving unknown angle measure problems using equations with letters standing for unknowns and on constructing, analyzing, classifying two-dimensional figures, and recognizing and drawing lines of symmetry. From their work in earlier grades, students have already used letters and equations to solve word problems. They continue to do so in Grade 4, and now they also learn to solve unknown angle problems, work that challenges students to build and solve equations to find unknown angle measures. First, students learn the definition of *degree* and learn how to measure angles in degrees using a circular protractor. From the definition of *degree* and the fact that angle measures are additive, the following rudimentary facts about angles naturally follow:

1. The sum of angle measurements around a point is 360 degrees.
2. The sum of angle measurements on a line is 180 degrees.

Hence, from 1 and 2, students see that vertical angles have equal measure. Armed only with these facts, students are able to generate and solve equations as in the following problem:

Find the unknown angle x .



$$\begin{aligned}
 x + 240 + 90 &= 360 \\
 x + 330 &= 360 \\
 x &= 30
 \end{aligned}$$

The unknown angle is 30 degrees.

Unknown angle problems help to unlock algebraic concepts for students because such problems are visual. The x stands for a specific number. A student could use a protractor to find (determine) the angle measure x . But doing so may destroy the joy of deducing the answer and solving the puzzle on their own.



Module 5 centers on equivalent fractions and operations with fractions. Students can use fractions when there is a given unit, the *whole unit*, but they need to learn to measure using a smaller unit, called the *fractional unit*. Previous modules earlier in the year prepared students to explore the relationship between a fractional unit and its whole unit by carefully establishing examples of such relationships in different contexts.

360 degrees in	1 complete turn
100 centimeters in	1 meter
1,000 grams in	1 kilogram
1,000 milliliters in	1 liter

The beauty of fractional units, once defined and understood, is that they behave just as all other units do:

- “3 fourths + 5 fourths = 8 fourths” just as “3 meters + 5 meters = 8 meters”
- “6 eighths – 1 eighth = 5 eighths” just as “6 tens – 1 ten = 5 tens”

Students use multiplication and division to find equivalent fractions and justify their work using area models and strip diagrams. They compare fractions with unlike denominators by using a known benchmark (e.g., 0, $\frac{1}{2}$, or 1) or by using like numerators or like denominators, and reason that comparing fractions can be done only when referring to the same whole. Students add and subtract fractions with like units, including fractions greater than 1 and mixed numbers, using visual models such as the area model and the number line. Through this introduction to fraction arithmetic, they gradually come to understand fractions as units they can manipulate, just like whole numbers. Customary units of measurement provide a relevant context for the arithmetic throughout the module.

Module 6, on decimals, starts with students realizing that decimal place value units are simply special fractional units with denominators of 10 or 100 (e.g., 1 tenth = $\frac{1}{10}$, 1 hundredth = $\frac{1}{100}$), and that the place value system is symmetric about the ones column. Fluency activities throughout the module continue to emphasize the connection between decimals and fractions as students learn to relate $\frac{3}{10} = 0.3 = 3$ tenths.

Students also recognize that 3 tenths is equal to 30 hundredths and subsequently have their first experience adding and subtracting fractions with unlike units (e.g., 3 tenths + 4 hundredths = 30 hundredths + 4 hundredths). They solve word problems involving money in both fraction and decimal form. Then students move to the study of personal financial literacy, investigating different types of financial institutions, exploring fixed and variable expenses, and solving word problems that calculate profits.

The year ends with Module 7, focused on measurement with multiplication and data analysis, as students solve multi-step word problems. Exploratory lessons support students’ conceptual understanding of the relative sizes of customary measurement units. Students explore conversion in hands-on settings and subsequently apply those conversions to solve multi-step word problems involving all operations. Finally, students collect data with measurements in fractions and decimals and represent this data on frequency tables, dot plots, and stem-and-leaf plots.



Grade 4 Year-at-a-Glance

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7
Place Value, Rounding, and Algorithms for Addition and Subtraction	Unit Conversions and Problem Solving with Metric Measurement	Multi-Digit Multiplication and Division	Angle Measure and Plane Figures	Fraction Equivalence, Ordering, and Operations	Introduction to Decimals and Financial Literacy	Exploring Measurement with Multiplication and Data
23 days	10 days	38 days	20 days	35 days	22 days	17 days
4.2A	4.5B	4.2A	4.6A	4.3A	4.2A	4.4C
4.2B	4.8A	4.4B	4.6B	4.3B	4.2B	4.4D
4.2C	4.8B	4.4C	4.6C	4.3C	4.2E	4.4E
4.2D	4.8C	4.4D	4.6D	4.3D	4.2F	4.4F
4.4A		4.4E	4.7A	4.3E	4.2G	4.4H
4.4G		4.4F	4.7B	4.3F	4.2H	4.5A
4.5A		4.4G	4.7C	4.9A	4.3C	4.5B
		4.4H	4.7D	4.9B	4.3E	4.8A
		4.5A	4.7E		4.3G	4.8B
		4.5C			4.4A	4.8C
		4.5D			4.8A	4.9A
					4.8B	4.9B
					4.8C	
					4.10A	
					4.10B	
					4.10C	
					4.10D	
					4.10E	

Boldface = Focus Standard



Grade 4 Scope and Sequence

Bluebonnet Learning K–5 Math Instructional Materials: Grade 4 Scope and Sequence			
Module	Topics and Instructional Days	Knowledge and Skills	Standards (Bold = focus standard)
Module 1: Place Value, Rounding, and Algorithms for Addition and Subtraction	A: Place Value of Multi-Digit Whole Numbers B: Comparing and Ordering Multi-Digit Whole Numbers C: Rounding Multi-Digit Whole Numbers	Students place value understanding of numbers up to 1 billion and applying that understanding to round, compare, and order numbers and to add and subtract multi-digit numbers. Students will: Develop knowledge of larger place values by focusing on the <i>times ten</i> pattern on the place value chart.	TEKS MPS 4.1B 4.1C 4.1E 4.1F 4.1G
	Mid-Module Assessment Task		TEKS 4.2A 4.2B 4.2C 4.2D 4.4A 4.4G 4.5A
	D: Multi-Digit Whole Number Addition E: Multi-Digit Whole Number Subtraction F: Addition and Subtraction Word Problems	- Read numbers up to 1 billion and represent numbers in standard form, unit form, word form, and in expanded notation. - Compare and order whole numbers. - Round numbers through the hundred thousands place using the vertical number line.	
	End-of-Module Assessment Task Assessments: 2 Lessons days: 19 Assessment days: 4 Total instructional days: 23	- Estimate solutions by using rounding and compatible numbers to decide whether their answers are reasonable. - Represent word problems using a strip diagram and a letter to represent an unknown quantity as they work toward becoming fluent with the standard algorithm for addition and subtraction.	ELPS 1.A 1.B 1.F 2.C 2.E 2.I 3.B 3.D 3.E 3.F 3.G 3.H 4.D 4.F 4.G 5.B



Module	Topics and Instructional Days	Knowledge and Skills	Standards (Bold = focus standard)
Module 2: Unit Conversions and Problem Solving with Metric Measurement	A: Metric Unit Conversions B: Application of Metric Unit Conversions C: Input–Output Tables, Numerical Expressions, and Number Patterns End-of-Module Assessment Task Assessments: 1 Lessons days: 8 Assessment days: 2 Total instructional days: 10	Students focus on length, mass, and capacity in the metric system, converting units, and applying unit conversions to solve and reason about multi-step word problems. Additionally, students use input–output tables to represent the relationship between the input values and output values with numerical expressions. Students will: • Convert from larger units to smaller units (find equivalent measures). • Add and subtract amounts expressed in mixed units using a simplifying strategy or algorithm. • Compare metric units and plot and label measurements on a number line. • Solve word problems involving length, mass, and capacity using strip diagrams. • Identify relationships in number patterns and represent them in input–output tables • Apply their knowledge of input–output tables to solve word problems.	TEKS MPS 4.1A 4.1B 4.1C 4.1D 4.1E TEKS 4.5B 4.8A 4.8B 4.8C ELPS 1.E 2.I 3.C 3.E 3.G 3.H 4.G 5.B



Grade 4 Scope and Sequence (Continued)

Module	Topics and Instructional Days	Knowledge and Skills	Standards (Bold = focus standard)
Module 3: Multi-Digit Multiplication and Division	A: Multiplicative Comparison Word Problems B: Multiplication by 10 and 100 C: Multiplication of up to Four Digits by Single-Digit Numbers D: Multiplication Word Problems	Students use place value understanding and visual representations to solve multiplication and division problems with multi-digit numbers. Students will: • Use formulas to find the area, perimeter, and unknown side length(s) of a rectangle. • Multiply a whole number by 10, 100, or 1,000 (e.g., $5 \times 1,000$) and multiply a whole number by multiples of 10, 100, and 1,000 (e.g., $5 \times 5,000$). • Use an area model to represent the multiplication of a two-digit multiple of 10 by a two-digit multiple of 10 (e.g., 40×40). • Multiply one-digit numbers by numbers with up to four digits by using the standard algorithm, the partial products method, and the area model. • Solve multi-step word problems by using a combination of addition, subtraction, and multiplication. • Divide up to four-digit numbers by one-digit numbers by using place value disks, arrays, area models, and long division. • Solve division word problems with remainders. • Use the associative property to rewrite multiplication expressions. • Solve two-digit by two-digit multiplication problems by using area models, partial products, the distributive property, and the standard algorithm.	TEKS MPS 4.1A 4.1C 4.1D 4.1F TEKS 4.4B 4.4C 4.4D 4.4E 4.4F 4.4H 4.5A 4.5C 4.5D 4.2A 4.4G ELPS 1.B 1.D 1.E 1.F 2.C 2.D 2.E 2.I 3.D 3.E 3.F 3.H 4.C 4.G 5.B 5.F
	Mid-Module Assessment Task E: Division of Tens and Ones with Successive Remainders F: Division of Thousands, Hundreds, Tens, and Ones G: Multiplication of Two-Digit by Two-Digit Numbers		
	End-of-Module Assessment Task Assessments: 2 Lessons days: 34 Assessment days: 4 Total instructional days: 38		



Module	Topics and Instructional Days	Knowledge and Skills	Standards (Bold = focus standard)
Module 4: Angle Measure and Plane Figures	A: Lines and Angles B: Angle Measurement Mid-Module Assessment Task C: Problem Solving with the Addition of Angle Measures D: Two-Dimensional Figures and Symmetry End-of-Module Assessment Task Assessments: 2 Lessons days: 16 Assessment days: 4 Total instructional days: 20	Students are introduced to points, lines, line segments, rays, and angles, as well as the relationships between them. Then they apply that new understanding to classify figures and solve problems. Students will: - Identify and draw points, lines, line segments, rays, angles, perpendicular lines, and parallel lines. - Determine whether an angle is an acute angle, a right angle, or an obtuse angle. - Use protractors to measure and construct angles and record the measurements in degrees. - Interpret and explore quarter (90°) turns. - Compose angles of different measures by using pattern blocks. - Determine unknown angle measurements mathematically and then use a protractor to verify the measurements. - Find and draw lines of symmetry. - Identify, classify, and draw acute, right, and obtuse triangles. - Name quadrilaterals, identify attributes (i.e., characteristics) that define them, and construct them based on given attributes.	TEKS MPS 4.1C 4.1E 4.1F 4.1G TEKS 4.6A 4.6B 4.6C 4.6D 4.7A 4.7B 4.7C 4.7D 4.7E ELPS 1.E 2.C 2.E 2.F 2.I 3.D 3.E 3.F 3.H 4.D 4.F 5.G



Grade 4 Scope and Sequence (Continued)

Module	Topics and Instructional Days	Knowledge and Skills	Standards (Bold = focus standard)
Module 5: Fraction Equivalence, Ordering, and Operations	A: Decomposition and Fraction Equivalence B: Fraction Equivalence Using Multiplication and Division C: Fraction Comparison D: Fraction Addition and Subtraction Mid-Module Assessment Task E: Extending Fraction Equivalence to Fractions Greater Than 1 F: Addition and Subtraction of Fractions by Decomposition End-of-Module Assessment Task Assessments: 2 Lessons days: 31 Assessment days: 4 Total instructional days: 35	Students explore fraction equivalence and apply that understanding to compare, add, and subtract fractions, including mixed numbers and fractions greater than 1. Students will: - Decompose fractions as a sum of unit fractions (e.g., $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$). - Draw strip diagrams and area models to show decomposition and to find equivalent fractions. - Express equivalent fractions in a number sentence by using multiplication and division. - Plot fractions on a number line and compare fractions by referring to benchmarks. - Compare fractions with common and related numerators and denominators. - Add and subtract fractions with like units and record answers as mixed numbers, where applicable. - Use strip diagrams, number bonds, number lines, benchmarks, and area models to add, subtract, and compare fractions. - Convert fractions greater than 1 to mixed numbers, and vice versa. - Create a dot plot and solve problems related to its data. - Estimate the sum or difference of two mixed numbers. - Add and subtract fractions and mixed numbers by using different strategies.	TEKS MPS 4.1C 4.1D 4.1F 4.1G TEKS 4.3A 4.3B 4.3C 4.3D 4.3E 4.3F 4.9A 4.9B ELPS 1.E 2.C 2.E 2.I 3.D 3.E 3.F 3.G 3.H 4.C 4.D 4.F 4.G 5.F 5.G



Module	Topics and Instructional Days	Knowledge and Skills	Standards (Bold = focus standard)
Module 6: Introduction to Decimals and Financial Literacy	A: Exploration of Tenths B: Tenths and Hundredths Mid-Module Assessment Task C: Decimal Comparison D: Addition and Subtraction with Tenths and Hundredths E: Money Amounts as Decimal Numbers and Financial Literacy End-of-Module Assessment Task Assessments: 2 Lessons days: 18 Assessment days: 4 Total instructional days: 22	Students explore decimal numbers (tenths and hundredths) and apply that understanding to compare, order, add, and subtract decimal numbers. Then they extend that understanding to the real-world context of money and personal financial literacy. Students will: • Represent numbers in decimal form, fraction form, fraction expanded notation, decimal expanded notation, and unit form. • Shade area models to represent a mixed number and locate the number on a number line. • Plot and label points on a number line to represent decimal numbers written in fraction form and decimal form. • Compare and order decimal numbers. • Add and subtract tenths and hundredths. • Solve word problems requiring the addition or subtraction of numbers written in decimal form. • Determine the value of an amount of money by using unit form (dollars and cents) and then express the value in fraction form and in decimal form. • Manage an allowance by determining how to allocate the funds between fixed expenses and variable expenses. • Determine profit earned from the selling of goods or services.	TEKS MPS 4.1D 4.1E 4.1F TEKS 4.2A 4.2B 4.2E 4.2F 4.2G 4.2H 4.3C 4.3G 4.4A 4.8C 4.10A 4.10B 4.10C 4.10D 4.10E 4.3E 4.8A 4.8B ELPS 1.A 1.D 1.E 1.F 2.C 2.E 2.F 2.I 3.E 3.H 3.J 4.D 4.E 4.G 5.B 5.G



Grade 4 Scope and Sequence (Continued)

Module	Topics and Instructional Days	Knowledge and Skills	Standards (Bold = focus standard)
Module 7: Exploring Measurement with Multiplication and Data	A: Measurement Conversion Tables B: Problem Solving with Measurement C: Investigation of Measurements Expressed as Mixed Numbers D: Data Analysis End-of-Module Assessment Task Assessments: 1 Lessons days: 15 Assessment days: 2 Total instructional days: 17	Students explore measurement (including metric units and customary units) and data, apply multiplication to convert measurement units, and problem solve with measurement. Students will: - Convert larger units of length, weight, mass, liquid volume, capacity, and time to smaller units of length, weight, mass, liquid volume, capacity, and time, or vice versa. - Add and subtract mixed measurement units. - Convert larger mixed measurement units with fractional parts to smaller units. - Use the Read–Draw–Write process to solve word problems, including multi-step measurement word problems. - Use a measurement data set to create frequency tables and dot plots and interpret the data. - Create a stem-and-leaf plot and interpret the data. - Use data and graphical representations to solve problems.	TEKS MPS 4.1D 4.1E 4.1F 4.1G TEKS 4.4H 4.5A 4.5B 4.8A 4.8B 4.8C 4.9A 4.9B 4.4C 4.4D 4.4E 4.4F ELPS 1.A 2.C 2.D 2.E 2.F 3.E 3.F 3.H 3.J 4.C 5.G
	Total Instructional Days: 165		



Grade 4 Standards by Lesson

Grade 4 Mathematical Process Standards By Lesson Per Module

Standard	M1 Lessons	M2 Lessons	M3 Lessons	M4 Lessons	M5 Lessons	M6 Lessons	M7 Lessons
4.1A		5	3			14, 16–18	8, 12–14
4.1B	2, 5, 11, 16	1, 3, 5	12, 13		18	18	8
4.1C	1, 6, 10, 14, 15	2	11, 18	2, 6, 7	16		
4.1D			4–8, 10, 14–17, 20–24, 29, 33, 34		15, 25, 26, 29, 30, 31	3, 14	15
4.1E	2, 13	7, 8	1, 19, 25, 30–32	1, 3, 9, 11, 13, 14	20	4, 6, 8, 9–11	1, 2, 11–15
4.1F	3, 7, 8, 12, 17, 19		2, 9, 26–28	5, 8, 10	3–5, 10, 12, 21, 27, 28	1, 2, 5, 7, 12–18	1–5, 8, 11, 12, 15
4.1G	4, 9, 18	4, 6, 7		4, 12, 15, 16	1, 2, 6–9, 11, 13, 14, 17, 19, 22–24	9	6, 7, 9, 10, 13



Grade 4 TEKS Standards by Lesson per Module

Standard	M1 Lessons	M2 Lessons	M3 Lessons	M4 Lessons	M5 Lessons	M6 Lessons	M7 Lessons
4.2A	1–3		4–11, 20–29			1–4	
4.2B	3–5					1, 2, 7, 12	
4.2C	5, 6						
4.2D	7–10						
4.2E						1–6, 9, 15	
4.2F						9–11	
4.2G						1, 4, 6	
4.2H						3, 6	
4.3A					1–5, 15–25		
4.3B					1–10, 15–25		
4.3C					1–10, 15–25	5	
4.3D					11–14, 20–25		
4.3E					6–10, 15–31		
4.3F					1–5, 15–31		
4.3G					21	3, 6	
4.4A	11–16					12, 13	
4.4B	2		4–7, 14–29				
4.4C			1–11, 13, 30–34				
4.4D			4–13, 30–34				
4.4E			14–25				
4.4F			14–29				
4.4G	7–10, 12, 16		3, 23, 25, 26				
4.4H			1–29				5–11
4.5A	11–19		2–10, 12, 13, 26–29				8
4.5B		6–8					1–3
4.5C			1–3, 30–34				
4.5D			1–3, 30–34				
4.6A				1–4, 15, 16			
4.6B				12–13			
4.6C				13, 14			



Standard	M1 Lessons	M2 Lessons	M3 Lessons	M4 Lessons	M5 Lessons	M6 Lessons	M7 Lessons
4.6D				15, 16			
4.7A				5, 6, 8			
4.7B				5, 6, 8			
4.7C				6, 7			
4.7D				6, 7			
4.7E				9–11			
4.8A		1–5				1	1, 2, 4–6
4.8B		1–5				1, 2	2–11
4.8C		1–5				18	3–8, 11
4.9A					20–25		12–15
4.9B					20–25		12–15
4.10A						17	
4.10B						18	
4.10C						16	
4.10D						16, 17	
4.10E						16	



Grade 4 English Language Proficiency Standards by Lesson per Module

Standard	M1 Lessons	M2 Lessons	M3 Lessons	M4 Lessons	M5 Lessons	M6 Lessons	M7 Lessons
1.A	7–10					16	1–8
1.B	2, 17–19		22–29				
1.D			14–21			18	
1.E		1–3, 6, 7	7–11	5–8, 12–16	11–14, 26–31	9	
1.F	1–4		14–21	1–4		12	
2.C	5–10		1–3, 7–11	1–9, 12–16	1–10, 13, 20–25	6	1–3, 9–15
2.D			7–11, 22–29	10	28		1–3
2.E	1–4, 13–16		1–6, 14–21	1–16	1–19, 26–31	1, 2	1–15
2.F				13	3	13	4
2.I	1–19	1, 3, 4	1–3, 11–21, 30–34	1–16	1–31	5	
3.B	1–4				31		
3.C		1–3					
3.D	7–10		1–3, 30–34	1–4	6		
3.E	1–19	1–8	4–11, 22–34	5–16	1–25	8	1–15
3.F	13–16		4–29	1–4	7		4–8
3.G	1–4, 7–10, 17–19	1–8			15–25		
3.H	17–19	4, 5	14–21, 30–34	9–11	1–31	7	4–8, 12–15
3.J						10, 11	1–3
4.C			4–6, 30–34		3, 5, 8, 20–31		1, 9–11
4.D	5, 6			9–11	1–31	10	
4.E						5	
4.F	4			1–8, 11–16	8, 10, 11, 14, 16, 18, 20, 22, 26		
4.G	5–19	1–8	1–3, 7–34		1–10	13	
5.B	1–19	1–8	1–29		27	9	
5.F			24		15–25		
5.G				1–4, 8–16	11–14, 26–31	18	1–8, 12–15



Grade 4 Development of Fluency

Overview

Fluency activities are designed to promote automaticity and flexibility by engaging students in ways that build fluency from conceptual understanding. The fluency activities in each lesson provide students with strategic learning opportunities to develop their proficiency with specific TEKS. While all TEKS are included in the instructional materials, some TEKS may not be practiced in a fluency activity.

Fluency Year-at-a-Glance

For specific TEKS descriptions and student expectations, refer to the relevant Fluency Close-Up tables.

GRADE 4	Module							
TEKS	1	2	3	4	5	6	7	ADSY
4.2A	•		•			•	•	•
4.2B	•		•			•		•
4.2C	•							•
4.2D	•							
4.2E						•		
4.2F						•		•
4.2G						•		
4.2H								
4.3A					•		•	•
4.3B					•			•
4.3C					•	•	•	•
4.3D					•		•	•
4.3E					•	•	•	•
4.3F								
4.3G								
4.4A	•			•	•	•	•	•
4.4B	•		•					
4.4C			•			•		•
4.4D			•	•	•			•
4.4E			•	•	•			•
4.4F			•	•	•			•
4.4G								
4.4H								

GRADE 4	Module							
TEKS	1	2	3	4	5	6	7	ADSY
4.5A								
4.5B	•						•	
4.5C			•					
4.5D		•	•				•	
4.6A				•				
4.6B				•				
4.6C				•				
4.6D				•				
4.7A								
4.7B								
4.7C				•				
4.7D				•				
4.7E			•	•				
4.8A	•	•					•	•
4.8B	•	•					•	•
4.8C		•					•	•
4.9A								
4.9B								
4.10A								
4.10B								
4.10C								
4.10D								
4.10E								



Fluency Close-Up

Numbers and Operations

The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:

TEKS	Module	Lessons
4.2A	1	1–7, 9–11
	3	4–5
	6	5, 9–10, 13
	7	13
	ADSY	2, 16, 20
4.2B	1	1–5, 8, 14–17
	3	5, 8–10
	6	11, 14
	ADSY	2, 4
4.2C	1	1–3, 6
	ADSY	2
4.2D	1	7–13
4.2E	6	2, 7, 14, 16
4.2F	6	11–12
	ADSY	18, 20
4.2G	6	2–12
4.2H	N/A	N/A



The student applies mathematical process standards to represent and generate fractions to solve problems.
The student is expected to:

TEKS	Module	Lessons
4.3A	5	2–6, 16
	7	7, 9
	ADSY	9–10
4.3B	5	2–4, 6, 22–31
	ADSY	10
4.3C	5	3–12, 14–22, 26, 29
	6	7
	7	12, 15
	ADSY	12–15
4.3D	5	13–15, 19, 25, 27–28
	7	12, 14
	ADSY	14, 17
4.3E	5	11–13, 16–18, 20–22, 24, 29–31
	6	15
	7	4, 8
	ADSY	13
4.3F	N/A	N/A
4.3G	N/A	N/A



The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:

TEKS	Module	Lessons
4.4A	1	12–15, 19
	4	1, 12, 15–16
	5	8, 11, 13, 21
	6	12–14, 16–18
	7	1–10, 13
	ADSY	20, 22
4.4B	1	1–3, 5–6, 9–11
	3	4, 6, 31
4.4C	3	20, 22, 24, 30, 32–34
	6	15
	ADSY	5
4.4D	3	1–2, 6–13, 20, 22, 24–26, 28–30, 32–34
	4	1–3
	5	7
	ADSY	4–5
4.4E	3	14–27, 30–32
	4	4–6, 10–14
	5	12
	ADSY	3, 6–8, 10
4.4F	3	14–22, 24–27, 30–32
	4	4–6, 10–14
	5	10, 12
	ADSY	6–8, 10
4.4G	N/A	N/A
4.4H	N/A	N/A



Algebraic Reasoning

The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:

TEKS	Module	Lessons
4.5A	N/A	N/A
4.5B	1	18
	7	5, 8, 12, 14
4.5C	3	1–4
4.5D	2	4
	3	4
	7	15

Geometry and Measurement

The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to:

TEKS	Module	Lessons
4.6A	4	2–10
4.6B	4	13–14
4.6C	4	14–15
4.6D	4	16

The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:

TEKS	Module	Lessons
4.7A	N/A	N/A
4.7B	N/A	N/A
4.7C	4	7–9
4.7D	4	7–9
4.7E	3	33–34
	4	7–12, 15–16



The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:

TEKS	Module	Lessons
4.8A	1	14–19
	2	1–3, 5
	7	6, 9–11
	ADSY	23
4.8B	1	14–19
	2	1–5
	7	2–4, 6–7
	ADSY	23, 25
4.8C	2	2–4
	7	1, 5
	ADSY	24

Data Analysis

The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:

TEKS	Module	Lessons
4.9A	N/A	N/A
4.9B	N/A	N/A

Personal Financial Literacy

The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:

TEKS	Module	Lessons
4.10A	N/A	N/A
4.10B	N/A	N/A
4.10C	N/A	N/A
4.10D	N/A	N/A
4.10E	N/A	N/A



Manipulatives and Supplies Lists

GRADE 4 MANIPULATIVES LIST		
Qty.	Item(s)	Description
2	Base-ten classroom set	
10	Beakers	<i>three-liter plastic beaker (1 per group of 3 students, 1 per teacher)</i>
25	Circle protractors	optional template in Module 4 Lesson 5
1	Decimal place value cards set	
12	Decimal place value disks	<i>(1 per student pair)</i>
1	Digital scale	<i>or 10 100-gram weights to use with a pan balance scale</i>
8	Funnels	<i>(1 per group of 3 students)</i>
10	Gallon measurement sets	<i>including gallon, quart, and pint (1 per group of 3 students, 2 per teacher)</i>
3	Linking cubes	<i>Boxes of linking cubes, box of 100</i>
14	Meter sticks	<i>(1 per student pair, 2 per teacher)</i>
9	Pan balances	<i>(1 per group of 3 students, 1 per teacher)</i>
2	Pattern block sets	
1	Platform scale	
25	Protractors	<i>4 in, 180-degree</i>
25	Protractors	<i>6 in, 180-degree</i>
25	Rulers	<i>inch and metric</i>
324	Square inch tiles	<i>(27 tiles per student pair)</i>
1	Weight	<i>1 gram</i>
1	Weight	<i>1 kilogram</i>
1	Whole number place value cards	
12	Whole number place value disks	<i>Set 2 (1 set per student pair)</i>



GRADE 4 SUPPLIES LIST

Qty.	Item(s)	Description
4	Bags	<i>quart-size, zip-top</i>
10	Bags	<i>snack-size, zip-top</i>
8	Buckets	<i>2-gallon (1 per group of 3 students)</i>
125	Card stock	<i>Sheets of card stock, red and white</i>
1	Cash register tape	roll, used for strips of paper
1	Chart paper	Tablet of chart paper
1	Clock	<i>analog with second hand</i>
24	Colored pencils	<i>Sets of colored pencils or markers</i>
96	Crayons	<i>(4 colors per student)</i>
1	Dictionary	
1	Document camera	
1	Dollar bill	
24	Dry erase markers	
1	Feather	
—	Food coloring	
1	Grid paper	<i>Ream of grid paper, centimeter</i>
25	Grid paper	<i>Sheets of grid paper, isometric/triangular</i>
500	Index cards	
25	Markers	<i>Boxes (1 per student, 1 per teacher)</i>
25	Page protectors	
1	Paper	<i>Ream of blank paper</i>
1000	Paper clips	<i>small</i>
24	Personal white boards	<i>Build from 1 white cardstock, 1 red cardstock, and 1 sheet protector per student</i>
3	Rice	<i>Kilograms of rice</i>
24	Scissors	
1	Staples	<i>pack</i>
1	Sticky notes	<i>Pad of sticky notes</i>
9	Stopwatches	<i>(1 per student group, 1 per teacher)</i>



GRADE 4 SUPPLIES LIST

Qty.	Item(s)	Description
1	String	<i>Cut to 4 inches</i>
—	Water	
1	Water bottle	<i>1 liter</i>
12	Yarn	<i>Meters of yarn, long cut to various lengths; thin wire may be preferred for some lessons</i>

ADSY ITEMS

Qty.	Item(s)	Description
—	Base-ten blocks	<i>(5–10 rods and 15–20 units per student, 1 flat per teacher)</i>
24	Coins	<i>25 pennies, 10 nickels, 10 dimes, 10 quarters (1 plastic or real set per student)</i>
24	Hundreds grid	



Grade 4 Module 1

Tips for Families

Key Concepts Overview

Focus TEKS: **4.2A, 4.2B, 4.2C, 4.2D, 4.4A, 4.4G, 4.5A**

The focus of Module 1 is developing place value understanding of numbers up to 1 billion and applying that understanding to round, compare, and order numbers and to add and subtract multi-digit numbers. Your student will:

- ☐ Develop knowledge of larger place values by focusing on the *times ten* pattern on the place value chart.
- ☐ Read numbers up to 1 **billion** and represent numbers in standard form, unit form, word form, and in expanded notation.
- ☐ Compare and order whole numbers.
- ☐ Round numbers through the **hundred thousands** place using the vertical number line.
- ☐ Estimate solutions by using rounding and compatible numbers to decide whether their answers are reasonable.
- ☐ Represent word problems using a strip diagram and a **letter** to represent an unknown quantity as they work toward becoming fluent with the standard algorithm for addition and subtraction.

You can use the checklist above to help monitor your student's progress of the knowledge and skills in this module. Daily sample problems with solutions and thought bubbles are found in the Homework Helper pages in the Succeed Student Edition to help you support your student as they work at home.

Additional Ways to Help at Home

- Support your student as he draws and labels a place value chart (up to billions). Ask him to say a large number (up to 1 billion). Represent the number on the place value chart using cereal pieces to represent each place value. Challenge each other to say the name of the number that was created using word form, unit form, and expanded notation.
- Play the “Build a Number” game with your student. The objective of the game is to build a larger number than your opponent's number on a place value chart. Players take turns rolling a die and then must choose into which place value to write the digit that was rolled. (Variation: Build a smaller number.)
Be sure to talk to your student about strategy. For example, ask your student where she would write the digit if she rolled the number 6 and the objective was to build the largest possible number. Listen for her to say that she would write the digit in the empty space with the largest place value (i.e., hundred thousands or the next largest place value if hundred thousands is already taken).
- Write a 6-digit number on a piece of paper. Ask your student to round the number to the nearest hundred, nearest thousand, nearest ten thousand, and nearest hundred thousand.
- Ask your student to restate each word problem in his own words. Make sure he understands each problem before he begins to draw his strip diagram. After your student draws the strip diagram, and before he attempts to solve the problem, ask him to explain the strip diagram to you.



Terms

Algorithm (*Algoritmo*): a step-by-step procedure to solve a type of problem

$$\begin{array}{r} 755,206 \\ + 89,814 \\ \hline 845,020 \end{array}$$

← Addends
← Sum

$$\begin{array}{r} 23,422 \\ - 11,510 \\ \hline 11,912 \end{array}$$

← Difference

Compatible numbers (*Número compatibles*): numbers that make calculation simpler when estimating solutions; compatible numbers are not necessarily the same numbers that are obtained by rounding

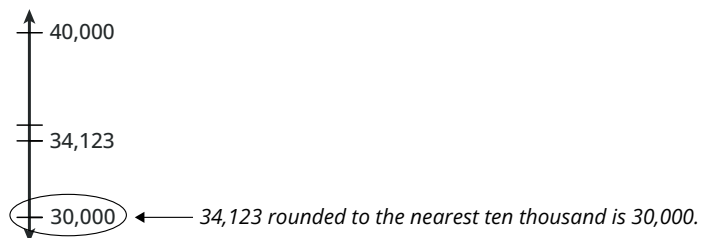
Compatible numbers

$$106 + 27 \approx 100 + 30$$

Expanded notation: an expression that is a sum of multiplication expressions, each representing the value of one digit as the product of that digit and a place value unit

$$(9 \times 10,000) + (5 \times 100) + (2 \times 10) + (3 \times 1)$$

Rounding (*Redondear*): approximating the value of a given number (This example is shown on a vertical number line.)



Standard form (*Forma estandarizada*): a number written with only digits (e.g., 90,523)

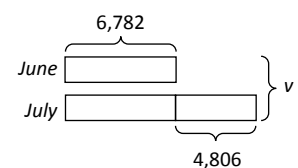
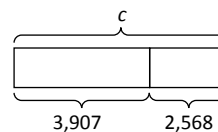
Word form: a number written using only words (e.g., ninety thousand, five hundred twenty-three)

Models

Place Value Chart

billions	hundred millions	ten millions	millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

Strip Diagram



Grado 4 Módulo 1

Consejos para las familias

Contenido general de los conceptos clave

Enfoque de TEKS: **4.2A, 4.2B, 4.2C, 4.2D, 4.4A, 4.4G, 4.5A**

El objetivo del Módulo 1 es desarrollar la comprensión del valor posicional de los números de hasta mil millones y aplicar esa comprensión para redondear, comparar y ordenar números y para sumar y restar números de varios dígitos. Su estudiante:

- ☐ Desarrollará el conocimiento de valores posicionales más grandes centrándose en el patrón de *multiplicado por diez* en la tabla de valor posicional.
- ☐ Leerá números hasta **mil millones** y representará números en forma estandarizada, forma de unidad, forma escrita y en notación desarrollada.
- ☐ Comparará y ordenará números enteros.
- ☐ Redondeará números hasta la cifra de **cien mil** utilizando la recta numérica vertical.
- ☐ Estimaré soluciones usando el redondeo y números compatibles para decidir si sus respuestas son razonables.
- ☐ Representará problemas de palabras utilizando tiras de fracciones y una **letra** para representar una cantidad desconocida a medida que trabajan para dominar el algoritmo estandarizado de suma y resta.

Puede usar la lista anterior para supervisar el progreso de su estudiante en cuanto a los conocimientos y habilidades de este módulo. En las páginas de Homework Helpers de Succeed, Student Edition encontrará ejemplos de problemas diarios con soluciones y burbujas de pensamiento para ayudarlo a apoyar a su estudiante mientras trabaja en casa.

Formas adicionales de ayudar en casa

- Apoye a su estudiante mientras dibuja y etiqueta una tabla de valor posicional (hasta miles de millones). Pídale que diga un número grande (hasta mil millones). Represente el número en la tabla de valor posicional utilizando piezas de cereal para representar cada valor posicional. Desafíense mutuamente a decir el nombre del número que se creó usando la forma de la palabra, la forma de la unidad y la notación desarrollada.
- Juegue a “Construir un número” con su estudiante. El objetivo del juego es construir un número más grande que el número de su oponente en una tabla de valor posicional. Los jugadores se turnan para tirar un dado y luego deben elegir en qué valor posicional escribir el dígito que se tiró. (Variación: construir un número más pequeño).
Asegúrese de hablar con su estudiante sobre la estrategia. Por ejemplo, pregunte a su estudiante dónde escribiría el dígito si sacara el número 6 y el objetivo fuera construir el número más grande posible. Escúchelo para que diga que escribiría el dígito en el espacio vacío con el valor posicional más grande (es decir, cientos de miles o el siguiente valor posicional más grande si ya está ocupado cientos de miles).
- Escriba un número de 6 dígitos en una hoja de papel. Pida al estudiante que redondee el número al centenar más cercano, al millar más cercano, al diez mil más cercano y al cien mil más cercano.



- Pida al estudiante que repita cada problema con palabras con sus propias palabras. Asegúrese de que entienda cada problema antes de comenzar a dibujar su diagrama de tiras. Después de que su estudiante lo dibuje, y antes de que intente resolver el problema, pídale que le explique el diagrama de tiras.

Términos

Algoritmo (*Algorithm*): un procedimiento paso a paso para resolver un tipo de problema.

$$\begin{array}{r}
 755,206 \\
 + 89,814 \\
 \hline
 845,020
 \end{array}
 \begin{array}{l}
 \swarrow \text{sumandos} \\
 \swarrow \text{suma}
 \end{array}
 \qquad
 \begin{array}{r}
 \overset{2}{2} \overset{14}{3}, \overset{3}{4} \overset{14}{2} 2 \\
 - 11,510 \\
 \hline
 11,912
 \end{array}
 \begin{array}{l}
 \swarrow \text{Diferencia}
 \end{array}$$

Forma escrita: un número escrito usando solo palabras (p. ej., noventa mil, quinientos veintitrés).

Forma estandarizada (*Standard form*): un número escrito solo con dígitos (p. ej., 90,523).

Números compatibles (*Compatible numbers*): números que simplifican el cálculo al estimar soluciones; los números compatibles no son necesariamente los mismos números que se obtienen por redondeo.

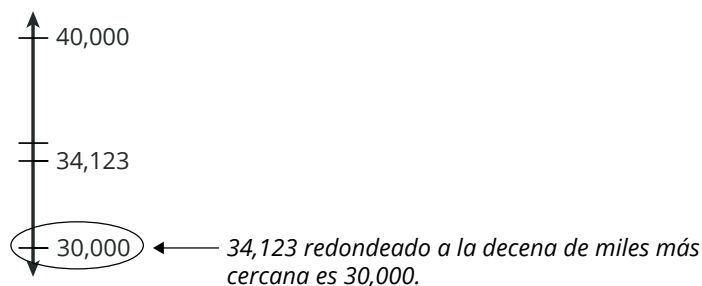
números compatibles

$$106 + 27 \approx 100 + 30$$

Notación desarrollada: una expresión que es una suma de expresiones de multiplicación, cada una de las cuales representa el valor de un dígito como el producto de ese dígito y una unidad de valor de posición.

$$(9 \times 10,000) + (5 \times 100) + (2 \times 10) + (3 \times 1)$$

Redondear (*Rounding*): aproximación al valor de un número dado (este ejemplo se muestra en una recta numérica vertical).

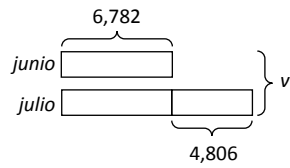
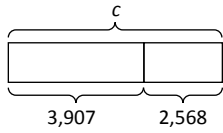


Modelos

Tabla de valor posicional

miles de millones	cientos millones	diez millones	millones	centenas miles	diez miles	miles	centenas	decenas	unidades

Diagrama de tiras



Grade 4 Module 2

Tips for Families

Key Concepts Overview

Focus TEKS: **4.5B, 4.8A, 4.8B, 4.8C**

Module 2 focuses on length, mass, and capacity in the metric system, converting units, and applying unit conversions to solve and reason about multi-step word problems. Additionally, students use input–output tables to represent the relationship between the input values and output values with numerical expressions. Your student will:

- ☐ **Convert** from larger units to smaller units (find equivalent measures).
- ☐ Add and subtract amounts expressed in **mixed units** using a simplifying strategy or algorithm.
- ☐ Compare metric units and plot and label measurements on a number line.
- ☐ Solve word problems involving length, **mass**, and capacity using strip diagrams.
- ☐ Identify relationships in number patterns and represent them in input–output tables.
- ☐ Apply their knowledge of input–output tables to solve word problems.

You can use the checklist above to help monitor your student’s progress of the knowledge and skills in this module. Daily sample problems with solutions and thought bubbles are found in the Homework Helper pages in the Succeed Student Edition to help you support your student as they work at home.

Additional Ways to Help at Home

- Pose questions such as, “Would we measure the distance from here to the store with centimeters, meters, or kilometers?”, “Would we measure a person’s mass in grams or kilograms?”, or “Would we measure the capacity of a coffee cup in milliliters or liters?” Ask your student to justify his answers.
- Practice metric conversions from a larger unit to a smaller unit. Use the units kilometer, meter, millimeter, kilogram, gram, milligram, kiloliter, liter, and milliliter (e.g., $2 \text{ kg} = \underline{\hspace{1cm}} \text{ g}$). Make a game with index cards, sticky notes, or small pieces of paper. Write one measurement on each card (e.g., write “2 kg” on one card and “2,000 g” on another card). Use the cards to play a variation of Go Fish or a memory game. The objective is to make matches of equivalent measures.
- Together with your student, look through your kitchen cupboards. Take out several cans of food. Look at the labels to see if you can find any metric units, such as grams, that are comparable. Use the measurements to line the cans up from least to greatest. Draw a number line and then plot and label the measurements.
- Play the “Build an Input–Output Table” activity with your student. The activity allows her to practice applying a rule to an input number to find its corresponding output number, or vice versa. For example, given the input numbers of 0, 1, 4, and 10 and the rule of add 2 to the input, she has to find the output numbers. Use rules involving addition, subtraction, multiplication, or division, and have your student explain how she gets the output numbers. (Be careful not to use subtraction rules resulting in negative numbers or division rules resulting in fractions. Students are not familiar with either concept.)



Terms

Algorithm (*Algoritmo*): a step-by-step procedure to solve a type of problem

$$\begin{array}{r}
 2 \text{ km } 608 \text{ m} \\
 + 3 \text{ km } 412 \text{ m} \\
 \hline
 5 \text{ km } 1020 \text{ m} \\
 \quad \quad \quad \uparrow \\
 \quad \quad \quad 1 \text{ km } 20 \text{ m} \\
 6 \text{ km } 20 \text{ m} = 6,020 \text{ m}
 \end{array}
 \quad \text{OR} \quad
 \begin{array}{r}
 2,608 \text{ m} \\
 + 3,412 \text{ m} \\
 \hline
 6,020 \text{ m} = 6 \text{ km } 20 \text{ m}
 \end{array}$$

Convert (*Convertir*): to express a measurement in a different unit; to rename units (e.g., 3 m 56 cm = 356 cm)

Input-output table: a two-column or two-row table that shows inputs and their corresponding outputs

Input	Output
1	9
2	10
3	11
4	12
11	19

Input	59	58	57	47	37
Output	44	43	42	32	22

Mixed unit (*Unidades mixtas*): a measurement that has more than one unit (e.g., 6 km 20 m)

Simplifying strategy (*Estrategia simplificadora*): a mental math or recorded method for making a problem more efficient to solve

$$\begin{array}{l}
 2 \text{ km} + 3 \text{ km} = 5 \text{ km} \\
 608 \text{ m} + 412 \text{ m} = 600 \text{ m} + 420 \text{ m} \\
 \quad \quad \quad \uparrow \\
 \quad \quad \quad 600 \quad 8 \quad \quad \quad = 1,020 \text{ m} \\
 5 \text{ km} + 1 \text{ km } 20 \text{ m} = 6 \text{ km } 20 \text{ m}
 \end{array}
 \quad \text{OR} \quad
 \begin{array}{l}
 2,608 \text{ m} + 3,412 \text{ m} \\
 \quad \quad \quad \uparrow \quad \quad \quad \uparrow \\
 \quad \quad \quad 2,000 \quad 600 \quad 8 \quad \quad \quad 3,000 \quad 400 \quad 12 \\
 5,000 \text{ m} + 1,000 \text{ m} + 20 \text{ m} = 6,020 \text{ m}
 \end{array}$$

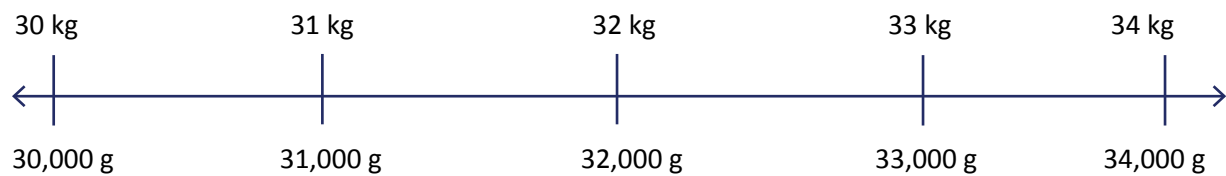


Models

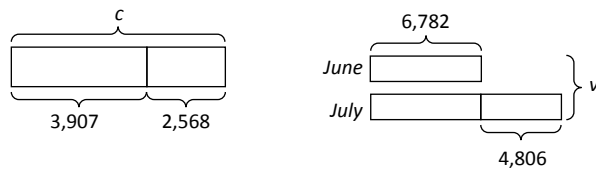
Conversion Table

Mass	
kg	g
3	
5	
	7,000

Number Line



Strip Diagram



Grado 4 Módulo 2

Consejos para las familias

Contenido general de los conceptos clave

TEKS de enfoque: **4.5B, 4.8A, 4.8B, 4.8C**

El Módulo 2 se enfoca en la longitud, la masa y la capacidad en el sistema métrico, convertir unidades y la aplicación de conversiones de unidades para resolver y razonar problemas escritos de varios pasos. Además, los estudiantes usan tablas de entrada-salida para representar la relación entre los valores de entrada y los valores de salida con expresiones numéricas. Se espera que su estudiante:

- ☐ **Convierta** unidades más grandes a unidades más pequeñas (encontrar medidas equivalentes).
- ☐ Sume y reste cantidades expresadas en **unidades mixtas** usando una estrategia o algoritmo para simplificar.
- ☐ Compare unidades métricas y trace y etiquete medidas en una recta numérica.
- ☐ Resuelva problemas escritos que involucren longitud, **masa** y capacidad usando diagramas de tiras.
- ☐ Identifique relaciones en patrones numéricos y los represente en tablas de entrada-salida.
- ☐ Aplique sus conocimientos de las tablas de entrada-salida para resolver problemas escritos.

Puede usar la lista de verificación anterior para ayudar a monitorear el progreso de su estudiante con los conocimientos y destrezas de este módulo. Ejemplos diarios de problemas con soluciones y burbujas de pensamiento se encuentran en las páginas Ayuda para la tarea de Triunfar, materiales del estudiante, para ayudarlo a apoyar a su estudiante mientras trabaja en casa.

Formas adicionales de ayudar en casa

- Haga preguntas como: “¿Mediríamos la distancia desde aquí hasta la tienda con centímetros, metros o kilómetros?”, “¿Mediríamos la masa de una persona en gramos o kilogramos?” o “¿Mediríamos la capacidad de una taza de café en mililitros o litros?”. Pídale a su estudiante que justifique sus respuestas.
- Practiquen las conversiones métricas de una unidad más grande a una unidad más pequeña. Use las unidades kilómetro, metro, milímetro, kilogramo, gramo, miligramo, kilolitro, litro y mililitro (p. ej., $2 \text{ kg} = \underline{\hspace{1cm}} \text{ g}$). Haga un juego con tarjetas de índice, notas adhesivas o pequeños pedazos de papel. Escriba una medida en cada tarjeta (p. ej., escriba “2 kg” en una tarjeta y “2,000 g” en otra tarjeta). Use las tarjetas para jugar una variación de un juego de memoria. El objetivo es relacionar tarjetas de medidas equivalentes.
- Junto con su estudiante, miren en la alacena de su cocina. Saquen varias latas de comida. Vean las etiquetas para ver si encuentran alguna unidad métrica, como gramos, que sea comparable. Usen las medidas para alinear las latas de menor a mayor. Dibujen una recta numérica y luego tracen y etiqueten las medidas.



- Juegue el juego “Construir una tabla de entrada-salida” con su estudiante. La actividad le permite practicar la aplicación de una regla a un número de entrada para encontrar su número de salida correspondiente o viceversa. Por ejemplo, dados los números de entrada de 0, 1, 4 y 10 y la regla de sumar 2 a la entrada, tiene que encontrar los números de salida. Use reglas que involucren suma, resta, multiplicación o división y pida a su estudiante que explique cómo obtiene los números de salida. (Tenga cuidado de no usar reglas de resta que resulten en números negativos o reglas de división que resulten en fracciones. Los estudiantes no están familiarizados con ninguno de los dos conceptos).

Términos

Algoritmo (Algorithm): un procedimiento paso a paso para resolver un tipo de problema.

$$\begin{array}{r}
 2 \text{ km } 608 \text{ m} \\
 + 3 \text{ km } 412 \text{ m} \\
 \hline
 5 \text{ km } 1020 \text{ m} \\
 \quad \quad \quad \swarrow \quad \searrow \\
 \quad \quad \quad 1 \text{ km } 20 \text{ m} \\
 5 \text{ km } + 1 \text{ km } 20 \text{ m} = 6 \text{ km } 20 \text{ m}
 \end{array}
 \quad \text{O} \quad
 \begin{array}{r}
 2,608 \text{ m} \\
 + 3,412 \text{ m} \\
 \hline
 6,020 \text{ m} = 6 \text{ km } 20 \text{ m}
 \end{array}$$

Convertir (Convert): expresar una medida en una unidad diferente; para renombrar unidades (p. ej., 3 m 56 cm = 356 cm).

Tabla de entrada-salida: una tabla de dos columnas o dos filas que muestra las entradas y sus salidas correspondientes.

Entrada	Salida
1	9
2	10
3	11
4	12
11	19

Entrada	59	58	57	47	37
Salida	44	43	42	32	22

Unidad mixta (Mixed unit): una medida que es más de una unidad (p. ej., 6 km 20 m).

Estrategia para simplificar (Simplifying strategy): un cálculo mental o método registrado para hacer que un problema sea más eficiente de resolver.

$$\begin{array}{l}
 2 \text{ km} + 3 \text{ km} = 5 \text{ km} \\
 608 \text{ m} + 412 \text{ m} = 600 \text{ m} + 420 \text{ m} \\
 \quad \quad \quad \swarrow \quad \searrow \\
 \quad \quad \quad 600 \quad 8 \quad \quad \quad = 1,020 \text{ m} \\
 5 \text{ km} + 1 \text{ km } 20 \text{ m} = 6 \text{ km } 20 \text{ m}
 \end{array}
 \quad \text{O} \quad
 \begin{array}{l}
 2,608 \text{ m} + 3,412 \text{ m} \\
 \quad \quad \quad \swarrow \quad \searrow \quad \quad \quad \swarrow \quad \searrow \\
 \quad \quad \quad 2,000 \quad 600 \quad 8 \quad \quad \quad 3,000 \quad 400 \quad 12 \\
 5,000 \text{ m} + 1,000 \text{ m} + 20 \text{ m} = 6,020 \text{ m}
 \end{array}$$



Modelos

Tabla de conversión

Masa	
kg	g
3	
5	
	7,000

Recta numérica

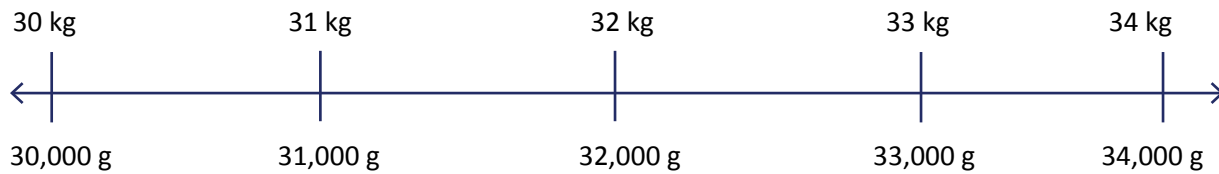
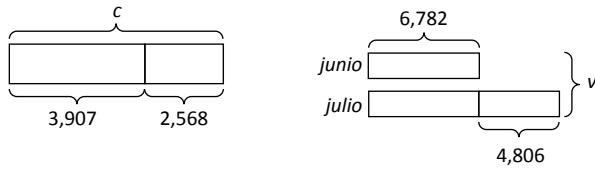


Diagrama de tiras



Grade 4 Module 3

Tips for Families

Key Concepts Overview

Focus TEKS: **4.4B, 4.4C, 4.4D, 4.4E, 4.4F, 4.4H, 4.5A, 4.5C, 4.5D**

The focus of Module 3 is using place value understanding and visual representations to solve multiplication and division problems with multi-digit numbers. Your student will:

- ☐ Use **formulas** to find the area, perimeter, and unknown side length(s) of a rectangle.
- ☐ Multiply a whole number by 10, 100, or 1,000 (e.g., $5 \times 1,000$) and multiply a whole number by multiples of 10, 100, and 1,000 (e.g., $5 \times 5,000$).
- ☐ Use an area model to represent the multiplication of a two-digit multiple of 10 by a two-digit multiple of 10 (e.g., 40×40).
- ☐ Multiply one-digit numbers by numbers with up to four digits by using the standard algorithm, the partial products method, and the area model.
- ☐ Solve multi-step word problems by using a combination of addition, subtraction, and multiplication.
- ☐ Divide up to four-digit numbers by one-digit numbers by using place value disks, arrays, area models, and **long division**.
- ☐ Solve division word problems with **remainders**.
- ☐ Use the **associative property** to rewrite multiplication expressions.
- ☐ Solve two-digit by two-digit multiplication problems by using area models, **partial products**, the **distributive property**, and the standard algorithm.

You can use the checklist above to help monitor your student's progress of the knowledge and skills in this module. Daily sample problems with solutions and thought bubbles are found in the Homework Helper pages in the Succeed Student Edition to help you support your student as they work at home.

Additional Ways to Help at Home

- With your student, identify rectangular shapes (e.g., window, door, top of table, top of dresser, cookie sheet, place mat, rug). Ask him to use a tape measure or a ruler to measure the length and the width of each rectangle to the nearest inch. Then have him find the area and perimeter of each rectangle. Keep in mind that he might need to use a calculator if the numbers are large.
- Create a game to practice multiplication facts with your student. Each of you will need ten index cards or small pieces of paper. Number the cards so each of you has one card for each digit (0–9). Place the cards face down in a pile. One player picks up two cards. The other player has to multiply the numbers shown on the two cards. Switch roles. See how many problems you can complete in one minute.



- Write five multiplication expressions of a one-digit number times a two-, three-, or four-digit number. Before your student solves each expression, prompt her to roll a die or use a random number generator on a smartphone to determine which method to use: 1 means using a standard algorithm, 2 means using partial products, 3 means using an area model, 4 means she can choose the method, 5 means you have to solve, 6 means she can use a calculator.
- Ask your student to draw and label a place value chart. Create a four-digit number on the chart, using cereal or raisins for disks. Ask him to use his “disks” to demonstrate how to divide the number by 2, 3, or 4.

Terms

Associative property of multiplication (*Propiedad asociativa*): the process of grouping factors in different ways does not change the product

$$\begin{aligned}
 &10 \times 3 \times 5 \\
 &= (10 \times 3) \times 5 \\
 &= 10 \times (3 \times 5)
 \end{aligned}$$

Distributive property (*Propiedad distributiva*): the process of distributing the value of a number with a set of given numbers within parentheses

$$\begin{aligned}
 &4 (300 + 10 + 6) \\
 &= (4 \times 300) + (4 \times 10) + (4 \times 6)
 \end{aligned}$$

Equation (*Ecuación*): a statement that two expressions are equal

$$\begin{array}{ccc}
 30 \times 4 = 120 & & 5,000 \div 1,000 = 5 \\
 \swarrow \quad \nearrow \quad \uparrow & & \swarrow \quad \nearrow \quad \uparrow \\
 \text{factors} \quad \text{product} & & \text{divisor} \quad \text{quotient}
 \end{array}$$

Long division: the process of dividing by using several recorded steps

$$\begin{array}{r}
 22 \\
 3 \overline{) 68} \\
 \underline{-6} \\
 08 \\
 \underline{-6} \\
 2 \leftarrow \text{remainder}
 \end{array}$$

Partial product: the resulting products when decomposing one factor in a two-factor multiplication expression and multiplying each part by the other factor

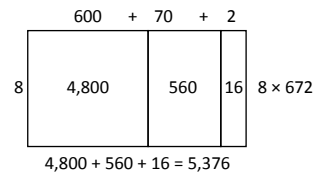
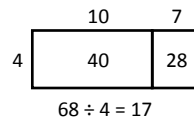
	3	+	10	
3	3×3		3×10	3×13
+	10×3		10×10	$\begin{array}{r} \times 13 \\ 30 \\ 30 \\ 100 \\ \hline 169 \end{array}$
10				

Arrows indicate the partial products: $3 \times 3 = 9$, $3 \times 10 = 30$, $10 \times 3 = 30$, and $10 \times 10 = 100$. These are grouped as 4 partial products.



Models

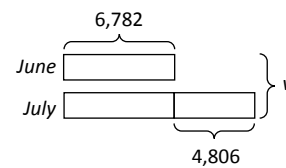
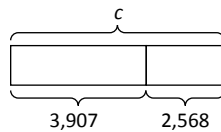
Area Model



Place Value Chart

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones

Strip Diagram



Grado 4 Módulo 3

Consejos para las familias

Contenido general de los conceptos clave

TEKS de enfoque: **4.4B, 4.4C, 4.4D, 4.4E, 4.4F, 4.4H, 4.5A, 4.5C, 4.5D**

El enfoque del Módulo 3 es usar la comprensión del valor de posición y las representaciones visuales para resolver problemas de multiplicación y división con números de varios dígitos. Se espera que su estudiante:

- ☐ Use **fórmulas** para encontrar el área, el perímetro y las longitudes de los lados desconocidos de un rectángulo.
- ☐ Multiplique un número entero por 10, 100 o 1,000 (p. ej., $5 \times 1,000$) y multiplique un número entero por múltiplos de 10, 100 y 1,000 (p. ej., $5 \times 5,000$).
- ☐ Use un modelo de área para representar la multiplicación de un múltiplo de dos dígitos de 10 por un múltiplo de 10 de dos dígitos (p. ej., 40×40).
- ☐ Multiplique números de un dígito por números de hasta cuatro dígitos cuando el algoritmo normal, el método de productos parciales y el modelo de área.
- ☐ Resuelva problemas escritos de varios pasos usando una combinación de suma, resta y multiplicación.
- ☐ Divida números de hasta cuatro dígitos entre números de un dígito usando discos de valor de posición, matrices, modelos de área y **división larga**.
- ☐ Resuelva problemas escritos de división con **residuos**.
- ☐ Use la **propiedad asociativa** para reescribir expresiones de multiplicación.
- ☐ Resuelva problemas de multiplicación de dos dígitos por dos dígitos usando modelos de área, **productos parciales**, la **propiedad distributiva** y el algoritmo normal.

Puede usar la lista de verificación anterior para ayudar a monitorear el progreso de su estudiante con los conocimientos y destrezas de este módulo. Ejemplos diarios de problemas con soluciones y burbujas de pensamiento se encuentran en las páginas de Ayuda para la tarea en los materiales del estudiantes de Triunfar para ayudarlo a apoyar a su estudiante mientras trabaja en casa.

Formas adicionales de ayudar en casa

- Con su estudiante, identifique figuras rectangulares (p. ej., ventana, puerta, parte de arriba de la mesa, parte de arriba de la cómoda, bandeja para hornear galletas, mantel individual, alfombra). Pídale que use una cinta métrica o una regla para medir la longitud y el ancho de cada rectángulo a la pulgada más cercana. Luego pídale que encuentre el área y el perímetro de cada rectángulo. Tenga en cuenta que tal vez necesite usar una calculadora si los números son grandes.
- Cree un juego para practicar las operaciones de multiplicación con su estudiante. Cada uno de ustedes necesitará diez tarjetas de índice o pequeños pedazos de papel. Numere las tarjetas de manera que cada uno de ustedes tenga una tarjeta de índice para cada dígito (0–9). Coloque las tarjetas boca abajo en un montón. Un jugador toma dos tarjetas. El otro jugador tiene que multiplicar los números que se muestran en las dos tarjetas. Intercambien papeles. Vean cuántos problemas pueden completar en un minuto.



- Escriba cinco expresiones de multiplicación de un número de un dígito por un número de dos, tres o cuatro dígitos. Antes de que su estudiante resuelva cada expresión, pídale que lance un dado o use un generador de números aleatorios en un teléfono inteligente para determinar qué método usar: 1 significa usar un algoritmo normal, 2 significa usar productos parciales, 3 significa usar un modelo de área, 4 significa que puede escoger el método, 5 significa que usted lo tiene que resolver, 6 significa que puede usar una calculadora.
- Pídale a su estudiante que dibuje y etiquete una tabla de valor de posición. Cree un número de cuatro dígitos en la tabla, usando cereal o pasas como discos. Pídale que use sus “discos” para demostrar cómo dividir el número entre 2, 3 o 4.

Términos

División larga: el proceso de dividir usando varios pasos registrados.

$$\begin{array}{r}
 22 \\
 3 \overline{) 68} \\
 \underline{-6} \\
 08 \\
 \underline{-6} \\
 2 \leftarrow \text{residuo}
 \end{array}$$

Ecuación (Equation): de que dos expresiones son iguales.

$$\begin{array}{ccc}
 & 30 \times 4 = 120 & \\
 \swarrow & \uparrow & \uparrow \\
 \text{factores} & & \text{producto}
 \end{array}$$

$$\begin{array}{ccc}
 5,000 \div 1,000 = 5 & & \\
 \uparrow & & \uparrow \\
 \text{divisor} & & \text{cociente}
 \end{array}$$

Producto parcial (Partial product): los productos resultantes al descomponer un factor en una expresión de multiplicación de dos factores y multiplicar cada parte por el otro factor.

	3	+	10	
3	3 × 3		3 × 10	
+	10 × 3		10 × 10	
10				

x 13	
30	→ 9
30	→ 30
100	→ 100
169	

} 4 productos parciales

Propiedad asociativa de la multiplicación (Associative property): el proceso de agrupar factores de diferentes maneras no cambia el producto.

$$\begin{aligned}
 &10 \times 3 \times 5 \\
 &= (10 \times 3) \times 5 \\
 &= 10 \times (3 \times 5)
 \end{aligned}$$

Propiedad distributiva (Distributive property): el proceso de distribuir el valor de un número con un conjunto de números dados entre paréntesis.

$$\begin{aligned}
 &4 (300 + 10 + 6) \\
 &= (4 \times 300) + (4 \times 10) + (4 \times 6)
 \end{aligned}$$



Modelos

Modelo de área

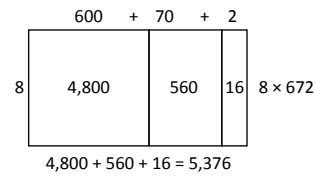
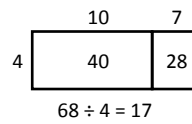
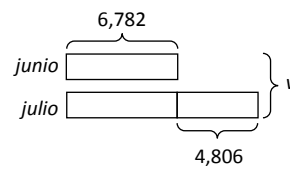
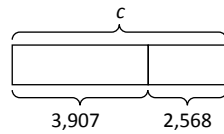


Tabla de valor de posición

millones	centenar miles	diez miles	miles	centenas	decenas	unidades

Diagrama de tiras



Grade 4 Module 4

Tips for Families

Key Concepts Overview

Focus TEKS: **4.6A, 4.6B, 4.6C, 4.6D, 4.7A, 4.7B, 4.7C, 4.7D, 4.7E**

The focus of Module 4 is introducing points, lines, line segments, rays, and angles, as well as the relationships between them, and then applying that new understanding to classify figures and solve problems. Your student will:

- ☐ Identify and draw **points, lines, line segments, rays, angles, perpendicular lines**, and **parallel lines**.
- ☐ Determine whether an angle is an **acute angle**, a **right angle**, or an **obtuse angle**.
- ☐ Use **protractors** to measure and construct angles and record the measurements in **degrees**.
- ☐ Interpret and explore quarter (90°) turns.
- ☐ Compose angles of different measures by using pattern blocks.
- ☐ Determine unknown angle measurements mathematically and then use a protractor to verify the measurements.
- ☐ Find and draw **lines of symmetry**.
- ☐ Identify, classify, and draw **acute, right, and obtuse triangles**.
- ☐ Name quadrilaterals, identify attributes (i.e., characteristics) that define them, and construct them based on given attributes.

You can use the checklist above to help monitor your student's progress of the knowledge and skills in this module. Daily sample problems with solutions and thought bubbles are found in the Homework Helper pages in the Succeed Student Edition to help you support your student as they work at home.

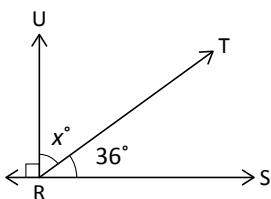
Additional Ways to Help at Home

- With your student, look around for acute, right, and obtuse angles and for perpendicular and parallel lines. You'll likely discover that right angles, perpendicular lines, and parallel lines are the simplest to find! You might find acute and obtuse angles on clocks, on the molding around windows and doors, on windows that crank open, and on hinged picture frames, among other places.
- Using a straightedge, such as a ruler, take turns with your student drawing angles on a piece of paper. Make a game of it. After drawing an angle, you and he both guess how many degrees the angle measures. Measure the angle with a protractor to see whose guess was closer.
- Practice with your student making quarter-turns with your bodies. Stand and face the same wall. Next, close your eyes. Take turns giving a directive to turn 90° , 180° , 270° , or 360° to the right or left. After each turn, open your eyes to see whether you are both facing the same wall. If you are not, discuss who is facing the correct direction.
- Prompt your student to lay two pieces of uncooked spaghetti on a piece of paper so they intersect at their midpoints. (She may want to tape the pieces down so they don't move.) Next, direct her to use a protractor to measure any one of the angles. Finally, ask her to determine the measure of the other three angles mathematically.



Terms

Adjacent angle (*Ángulo adyacente*): two angles with the same vertex that share a ray and do not overlap (e.g., $\angle URT$ and $\angle TRS$ are adjacent angles)



Arc (*Arco*): a portion of the circumference of a circle; an arc can be used to mark an angle

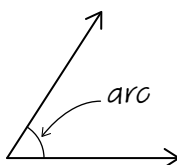
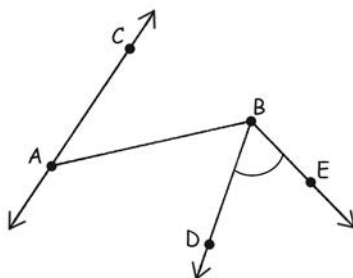
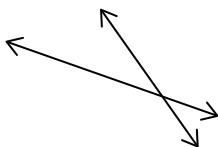


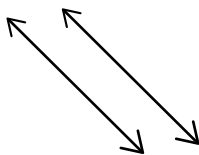
Figure (*Figura*): a set of points in the plane



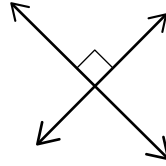
Intersecting lines: lines that contain at least one point in common



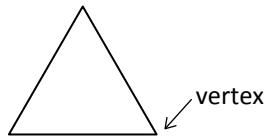
Parallel (*Paralelo*): two lines in a plane that do not intersect and are always the same distance apart; line segments or rays are parallel if the lines containing them are parallel



Perpendicular (*Perpendicular*): two lines that intersect if the angles formed between the lines are right angles; line segments or rays are perpendicular if the lines containing them are perpendicular

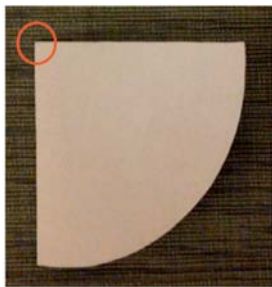


Vertex (*Vértice*): a point where two lines, line segments, rays, or sides meet

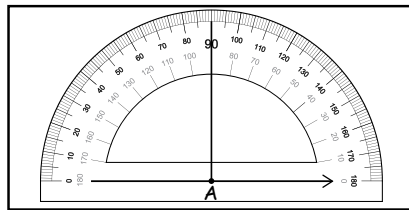


Models

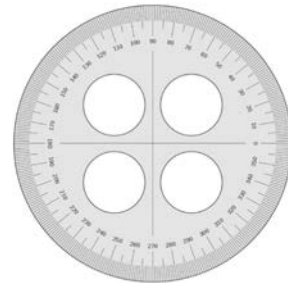
Right Angle Template



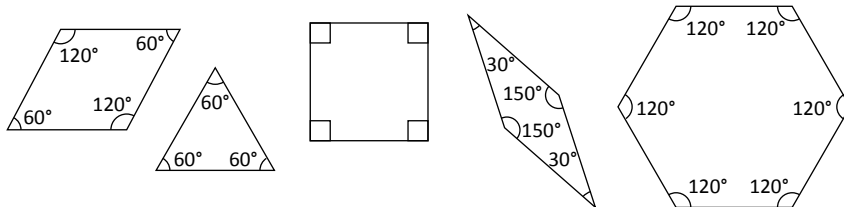
180° Protractor



360° Protractor



Pattern -Blocks



Grado 4 Módulo 4

Consejos para las familias

Contenido general de los conceptos clave

TEKS de enfoque: **4.6A, 4.6B, 4.6C, 4.6D, 4.7A, 4.7B, 4.7C, 4.7D, 4.7E**

El enfoque del Módulo 4 es presentar puntos, líneas, segmentos de recta, rayos y ángulos, así como las relaciones entre ellos. Y luego aplicar esa nueva comprensión para clasificar figuras y resolver problemas. Se espera que su estudiante:

- ☐ Identifique y dibuje **puntos, líneas, segmentos de recta, rayos, ángulos**, líneas **perpendiculares** y líneas **paralelas**.
- ☐ Determine si un ángulo es un **ángulo agudo**, un **ángulo recto** o un **ángulo obtuso**.
- ☐ Use **transportadores** para medir y construir ángulos y anote las mediciones en **grados**.
- ☐ Interprete y explore los cuartos de giro (90°).
- ☐ Componga ángulos de diferentes medidas usando bloques de patrones.
- ☐ Determine matemáticamente medidas de ángulos desconocidos y luego use un transportador para verificar las medidas.
- ☐ Encuentra y dibuja **líneas de simetría**.
- ☐ Identifique, clasifique y dibuje **triángulos agudos, rectos y obtusos**.
- ☐ Nombre cuadriláteros, identificando los atributos (características) que los definen y los construya basado en los atributos dados.

Puede usar la lista de verificación anterior para ayudar a monitorear el progreso de su estudiante con los conocimientos y destrezas de este módulo. Ejemplos diarios de problemas con soluciones y burbujas de pensamiento se encuentran en las páginas de Ayuda para la tarea de Triunfar, materiales del estudiante para ayudarlo a apoyar a su estudiante mientras trabaja en casa.

Formas adicionales de ayudar en casa

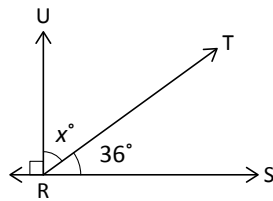
- Con su estudiante, busque a su alrededor ángulos agudos, rectos y obtusos y líneas perpendiculares y paralelas. Probablemente descubra que los ángulos rectos, las líneas perpendiculares y las líneas paralelas son las más fáciles de encontrar. Puede encontrar ángulos agudos y obtusos en los relojes, en las molduras alrededor de ventanas y puertas, en ventanas que se abren y en marcos de cuadros con bisagras, entre otros lugares.
- Usando una regla, túrnese con su estudiante para dibujar ángulos en una hoja de papel. Haga de esto un juego. Después de dibujar un ángulo, usted y su estudiante adivinan cuántos grados mide el ángulo. Miden el ángulo con un transportador para ver quién estaba más cerca.
- Practique con su estudiante a hacer cuartos de giros con su cuerpo. Párense y miren hacia la misma pared. Luego, cierran los ojos. Tomen turnos para dar instrucciones para girar 90° , 180° , 270° o 360° a la derecha o a la izquierda. Después de cada giro, abran los ojos para ver si ambos están frente a la misma pared. Si no es así, hablen sobre quién está mirando en la dirección correcta.



- Pida a su estudiante que coloque dos pedazos de espagueti crudos en una hoja de papel de manera que se crucen en sus puntos medios. (Puede pegar las piezas con cinta adhesiva para que no se muevan). Luego, indíquele que use un transportador para medir cualquiera de los ángulos. Finalmente, pídale que determine matemáticamente la medida de los otros tres ángulos.

Términos

Ángulo adyacente (*Adjacent angle*): dos ángulos con el mismo vértice que comparten un rayo y no se enciman (p. ej., $\angle URT$ y $\angle TRS$ son ángulos adyacentes).



Arco (*Arc*): una parte de la circunferencia de un círculo; un arco se puede usar para marcar un ángulo.

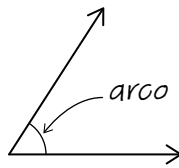
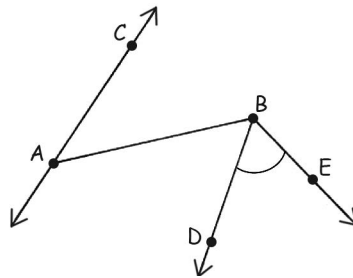
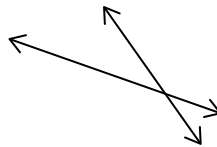


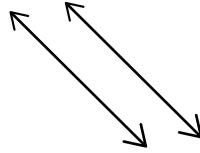
Figura (*Figure*): un conjunto de puntos en el plano.



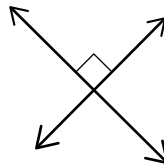
Líneas intersecantes (*Intersecting lines*): líneas que contienen por lo menos un punto en común.



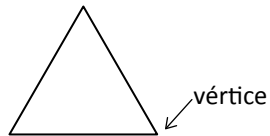
Paralelas (*Parallel*): dos líneas en un plano que no se intersecan y están siempre a la misma distancia entre sí; los segmentos de recta o rayos son paralelos si las líneas que los contienen son paralelas.



Perpendiculares (*Perpendicular*): dos líneas que se intersecan si los ángulos formados entre las líneas son ángulos rectos; los segmentos de recta o rayos son perpendiculares si las líneas que los contienen son perpendiculares.

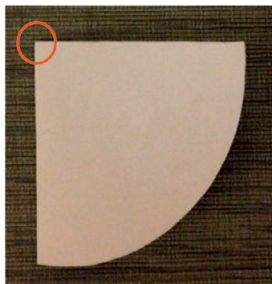


Vértice (*Vertex*): punto donde se unen dos líneas, segmentos de recta, rayos o lados.

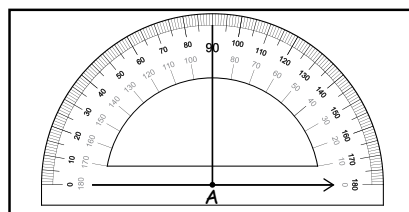


Modelos

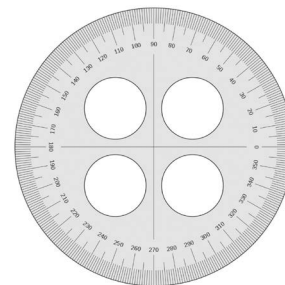
Plantilla de ángulo recto



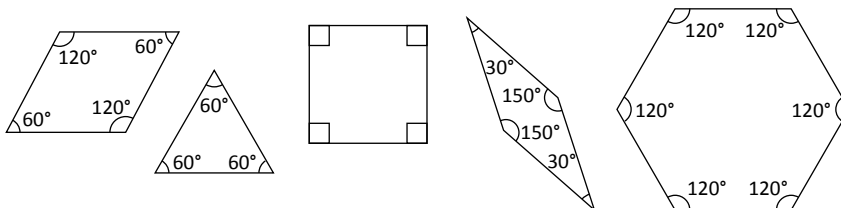
Transportador de 180°



Transportador de 360°



Bloques de patrones



Grade 4 Module 5

Tips for Families

Key Concepts Overview

Focus TEKS: **4.3A, 4.3B, 4.3C, 4.3D, 4.3E, 4.3F, 4.9A, 4.9B**

The focus of Module 5 is exploring fraction equivalence and applying that understanding to compare, add, and subtract fractions, including mixed numbers and fractions greater than 1. Your student will:

- ☐ Decompose fractions as a sum of unit fractions (e.g., $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$).
- ☐ Draw strip diagrams and area models to show decomposition and to find equivalent fractions.
- ☐ Express equivalent fractions in a number sentence by using multiplication and division.
- ☐ Plot fractions on a number line and compare fractions by referring to **benchmarks**.
- ☐ Compare fractions with **common** and related **numerators** and **denominators**.
- ☐ Add and subtract fractions with like units and record answers as **mixed numbers**, where applicable.
- ☐ Use strip diagrams, number bonds, number lines, benchmarks, and area models to add, subtract, and compare fractions.
- ☐ Convert **fractions greater than 1** to mixed numbers, and vice versa.
- ☐ Create a **dot plot** and solve problems related to its data.
- ☐ Estimate the sum or difference of two mixed numbers.
- ☐ Add and subtract fractions and mixed numbers by using different strategies.

You can use the checklist above to help monitor your student's progress of the knowledge and skills in this module. Daily sample problems with solutions and thought bubbles are found in the Homework Helper pages in the Succeed Student Edition to help you support your student as they work at home.

Additional Ways to Help at Home

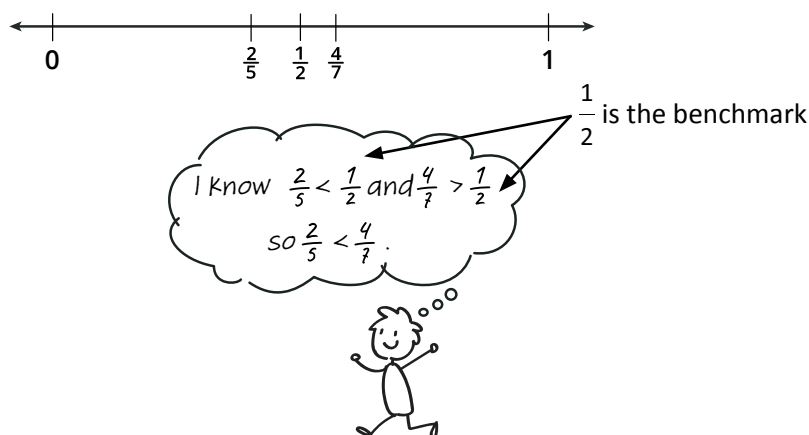
- Explore fractions as you make sandwiches. Give a sandwich to your student. Ask her how many whole sandwiches she has. Cut your student's sandwich in half. Ask her again how many whole sandwiches she has. Point to one half. Ask her to say the fraction that the piece represents. Point to the other half. Ask her again to say the fraction. Finally, ask her to say a number sentence that represents the decomposition ($1 = \frac{1}{2} + \frac{1}{2}$). Continue with this activity by decomposing the halves into smaller units (e.g., fourths, eighths).
- Challenge your student to think about common factors. Write a fraction such as $\frac{4}{10}$. Ask your student to name the factors of 4 (1, 2, 4) and the factors of 10 (1, 2, 5, 10), and then ask him to name the common factors (1 and 2). Continue with other fractions.



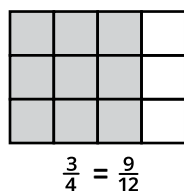
- Ask your student to teach you how to add and subtract fractions. Teaching you will help her to explain her thinking as she talks through the process. Ask your student to explain how the models (number bond, number line, and strip diagram) can help her solve.
- Find six pencils of different lengths. Help your student to measure each pencil to the nearest quarter inch, and then record the measurements. Next, ask him to use the data to create a dot plot, and then to create two questions based on the data.

Terms

Benchmark: a standard or reference point by which something can be measured or compared



Equivalent fractions (*Fracción equivalente*): fractions that name the same size or amount and are located at the same point on the number line



Fraction greater than 1: a fraction with a numerator that is greater than the denominator

$$\frac{8}{5} \quad \leftarrow \text{The numerator is 8.}$$

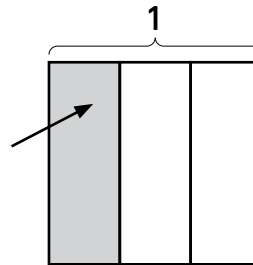
$$\quad \quad \leftarrow \text{The denominator is 5.}$$

Because 8 is greater than 5, the fraction $\frac{8}{5}$ is a fraction greater than 1.



Fractional unit (*Unidad fraccionaria*): the unit created by partitioning a whole into a number of equal parts

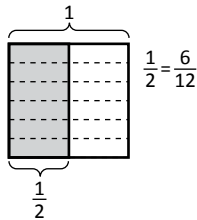
The whole is divided into three equal parts. The fractional unit is thirds.



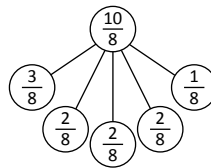
Mixed number (*Números mixtos*): a number made up of a whole number and a fraction (e.g., $3\frac{1}{2}$)

Models

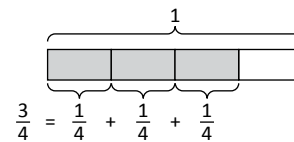
Area Model



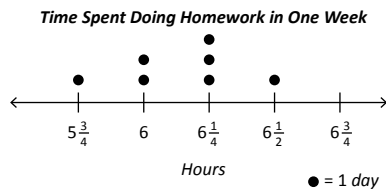
Number Bond



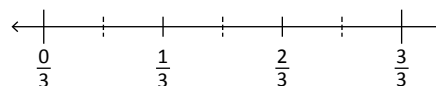
Strip Diagram



Dot Plot



Number Line



Grado 4 Módulo 5

Consejos para las familias

Contenido general de los conceptos clave

TEKS de enfoque: **4.3A, 4.3B, 4.3C, 4.3D, 4.3E, 4.3F, 4.9A, 4.9B**

El enfoque del Módulo 5 es explorar la equivalencia de fracciones y aplicar ese conocimiento para comparar, sumar y restar fracciones, incluyendo los números mixtos y las fracciones mayores que 1. Se espera que su estudiante:

- ☐ Descomponga fracciones como una suma de fracciones unitarias (p. ej., $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$)
- ☐ Dibuje diagramas de tiras y modelos de área para mostrar la descomposición y encontrar fracciones equivalentes.
- ☐ Exprese fracciones equivalentes en una oración numérica usando la multiplicación y la división.
- ☐ Trace fracciones en una recta numérica y compare fracciones mencionando **puntos de referencia**.
- ☐ Compare fracciones con **numeradores** y **denominadores** semejantes y **relacionados**.
- ☐ Sume y reste fracciones con unidades iguales y registre las respuestas como números mixtos, cuando corresponda.
- ☐ Use diagramas de tiras, vínculos numéricos, rectas numéricas, puntos de referencia y modelos de área para sumar, restar y comparar fracciones.
- ☐ Convierta **fracciones mayores que 1** en números mixtos, y viceversa.
- ☐ Cree un **diagrama de puntos** y resuelva problemas que involucren sus datos.
- ☐ Calcule la suma o diferencia de dos números mixtos.
- ☐ Sume y reste fracciones y números mixtos usando diferentes estrategias.

Puede usar la lista de verificación anterior para ayudar a monitorear el progreso de su estudiante con los conocimientos y destrezas de este módulo. Ejemplos diarios de problemas con soluciones y burbujas de pensamiento se encuentran en las páginas de Ayuda para la tarea de Triunfar, materiales del estudiante, para ayudarlo a apoyar a su estudiante mientras trabaja en casa.

Formas adicionales de ayudar en casa

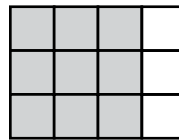
- Explore las fracciones mientras hacen sándwiches. Dele un sándwich a su estudiante. Pregúntele cuántos sándwiches enteros tiene. Corte el sándwich de su estudiante por la mitad. Pregúntele nuevamente cuántos sándwiches enteros tiene. Señale una mitad. Pídale que diga la fracción que representa el pedazo. Señale la otra mitad. Pídale nuevamente que diga la fracción. Finalmente, pídale que diga una oración numérica que represente la descomposición ($1 = 1 = \frac{1}{2} + \frac{1}{2}$). Continúe con esta actividad descomponiendo las mitades en unidades más pequeñas (p. ej., cuartos, octavos).
- Desafíe a su estudiante a pensar en factores comunes. Escriba una fracción como $\frac{4}{10}$. Pídale a su estudiante que nombre los factores de 4 (1, 2, 4) y los factores de 10 (1, 2, 5, 10), y luego pídale que nombre los factores comunes (1 y 2). Continúe con otras fracciones.



- Pídale a su estudiante que le enseñe a sumar y restar fracciones. Enseñarle le ayudará a explicar su pensamiento mientras habla del proceso. Pídale a su estudiante que explique cómo los modelos (enlace numérico, recta numérica y tiras de fracciones) pueden ayudarlo a resolver.
- Encuentre seis lápices de diferentes longitudes. Ayude a su estudiante a medir cada lápiz al cuarto de pulgada más cercano y luego registre las medidas. Después, pídale que use los datos para crear un diagrama de puntos y que luego cree dos preguntas basadas en los datos.

Términos

Fracciones equivalentes (*Equivalent fractions*): fracciones que tienen el mismo tamaño o cantidad y están ubicadas en el mismo punto de la recta numérica.



$$\frac{3}{4} = \frac{9}{12}$$

Fracción mayor que 1: una fracción con un numerador que es mayor que el denominador.

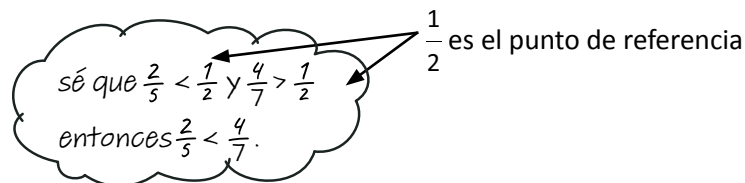
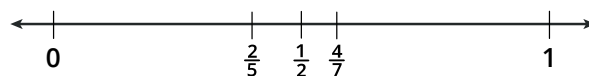
$$\frac{8}{5} \quad \leftarrow \text{el numerador es 8.}$$

$$\quad \quad \leftarrow \text{el denominador es 5.}$$

como 8 es mayor a 5, la fracción $\frac{8}{5}$ es una fracción mayor a 1.

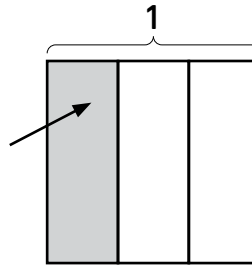
Número mixto (*Mixed number*): un número formado por un número entero y una fracción (por ejemplo, $3\frac{1}{2}$)

Punto de referencia: un estándar o punto de referencia con el cual se puede medir o comparar algo.



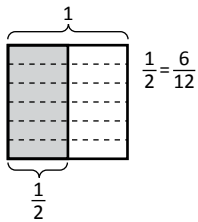
Unidad fraccionaria (*Fraction unit*): la unidad creada al dividir un entero en varias partes iguales.

El entero se divide en tres partes iguales. La unidad fraccionaria son los tercios.



Modelos

Modelo de área



Vínculo numérico

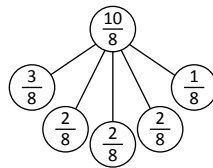


Diagrama de tiras

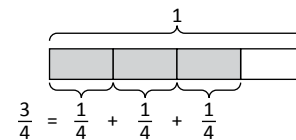
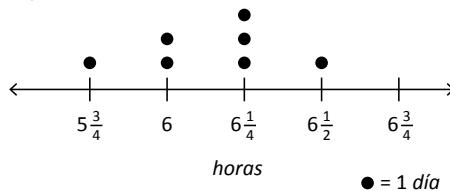
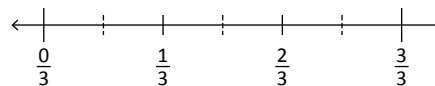


Diagrama de puntos

tiempo dedicado a hacer la tarea durante una semana



Recta numérica



Grade 4 Module 6

Tips for Families

Key Concepts Overview

Focus TEKS: **4.2A, 4.2B, 4.2E, 4.2F, 4.2G, 4.2H, 4.3C, 4.3G, 4.4A, 4.8C, 4.10A, 4.10B, 4.10C, 4.10D, 4.10E**

The focus of Module 6 is exploring **decimal numbers (tenths and hundredths)**; applying that understanding to compare, order, add, and subtract decimal numbers; and extending that understanding to the real-world context of money and personal financial literacy. Your student will:

- ☐ Represent numbers in decimal form, fraction form, **fraction expanded notation, decimal expanded notation**, and unit form.
- ☐ Shade area models to represent a mixed number and locate the number on a number line.
- ☐ Plot and label points on a number line to represent decimal numbers written in fraction form and decimal form.
- ☐ Compare and order decimal numbers.
- ☐ Add and subtract tenths and hundredths.
- ☐ Solve word problems requiring the addition or subtraction of numbers written in decimal form.
- ☐ Determine the value of an amount of money by using unit form (dollars and cents) and then express the value in fraction form and in decimal form.
- ☐ Manage an allowance by determining how to allocate the funds between **fixed expenses** and **variable expenses**.
- ☐ Determine **profit** earned from the selling of goods or services.

You can use the checklist above to help monitor your student's progress of the knowledge and skills in this module. Daily sample problems with solutions and thought bubbles are found in the Homework Helper pages in the Succeed Student Edition to help you support your student as they work at home.

Additional Ways to Help at Home

- On index cards or small pieces of paper, write each of the fractions, in tenths, from $\frac{1}{10}$ to $\frac{10}{10}$ (i.e., $\frac{1}{10}, \frac{2}{10}, \frac{3}{10}, \dots, \frac{10}{10}$). On another set of index cards, write each of the decimal numbers, in tenths, from 0 to 1.0 (i.e., 0.1, 0.2, 0.3, ..., 1.0). Create a game using the cards. For example, play a memory game to create matches of equivalent amounts (e.g., $\frac{1}{10}$ and 0.1). The person with the most matches wins. For a challenge, change the objective to creating matches of pairs that add up to 1 (e.g., $\frac{1}{10}$ and $\frac{9}{10}$ or 0.2 and $\frac{8}{10}$).



- Use a mapping app on a smartphone or access a website that can be used to determine the distance from one place to another. Help your student find the distance from your home to five different points of interest near you, such as a gas station, restaurant, library, post office, and school. Have him record each distance, read it in decimal form, identify the value of each digit, and then order the distances from least to greatest. If you do not have access to a smartphone or the internet, consider making up distances.
- Complete the “Piggy Bank on It” activity. Discuss budgeting with your student. Ask her to research the cost of an item she would like to purchase and then budget a fictional allowance amount among saving to purchase the item, other expenses, and long-term savings. Have her share her budget.

Terms

Decimal expanded notation: expanded notation that expresses place value units smaller than one as decimal numbers

$$(e.g., (3 \times 100) + (7 \times 10) + (8 \times 1) + (7 \times 0.1) + (3 \times 0.01) = 378.73)$$

Fixed expense: a cost that is consistent over time

Fixed Expenses	
Rent	
Insurance	
Car payment	
Internet fees	
Bus pass	

Fraction expanded notation: expanded notation that expresses place value units smaller than one as fractions with denominators of 10 or 100

$$(3 \times 100) + (7 \times 10) + (8 \times 1) + (7 \times \frac{1}{10}) + (3 \times \frac{1}{100}) = 378 \frac{73}{100}$$

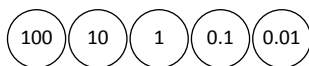
Variable expense: a cost that may vary or change over time

Variable Expenses	
Groceries	Dining out
Movie tickets	Electricity
Taxes	
Gas	
Clothing	

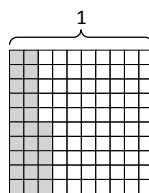


Models

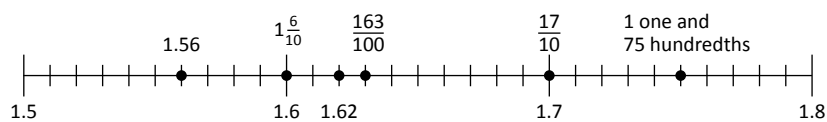
Place Value Disks



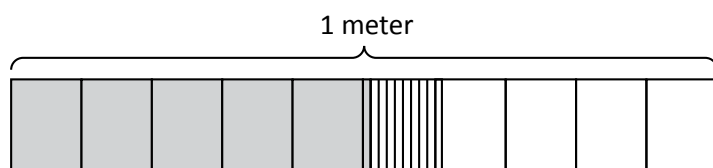
Area Model



Number Line



Strip Diagram/Meter Stick



$$(5 \times \frac{1}{10}) + (1 \times \frac{1}{100}) = 0.51$$

0.51 meter shaded



Grado 4 Módulo 6

Consejos para las familias

Contenido general de los conceptos clave

TEKS de enfoque: **4.2A, 4.2B, 4.2E, 4.2F, 4.2G, 4.2H, 4.3C, 4.3G, 4.4A, 4.8C, 4.10A, 4.10B, 4.10C, 4.10D, 4.10E**

El enfoque del Módulo 6 es explorar los **números decimales (décimas y centésimas)**; aplicar esa comprensión para comparar, ordenar, sumar y restar números decimales; y extender ese entendimiento al contexto del mundo real del dinero y la comprensión de finanzas personales. Se espera que su estudiante:

- ☐ Represente números en forma decimal, forma fraccionaria, **notación desarrollada de fracciones**, **notación desarrollada de decimales** y forma unitaria.
- ☐ Sombree modelos de área para representar un número mixto y localizar el número en una recta numérica.
- ☐ Dibuje y etiquete puntos en una recta numérica para representar números decimales escritos en forma fraccionaria y decimal.
- ☐ Compare y ordene números decimales.
- ☐ Sume y reste décimos y centésimos.
- ☐ Resuelva problemas escritos que requieran la suma o resta de números escritos en forma decimal.
- ☐ Determine el valor de una cantidad de dinero usando la forma unitaria (dólares y centavos) y luego exprese el valor en forma de fracción y en forma decimal.
- ☐ Administre una mesada (dinero para gastar) determinando cómo asignar los fondos entre **gastos fijos** y **gastos variables**.
- ☐ Determine las **ganancias** obtenidas por la venta de bienes o servicios.

Puede usar la lista de verificación anterior para ayudar a monitorear el progreso de su estudiante con los conocimientos y destrezas de este módulo. Ejemplos diarios de problemas con soluciones y burbujas de pensamiento se encuentran en las páginas de Ayuda para la tarea de Triunfar, materiales del estudiante, para ayudarlo a apoyar a su estudiante mientras trabaja en casa.

Formas adicionales de ayudar en casa

- En tarjetas de índice o pequeños pedazos de papel, escriba cada una de las fracciones, en décimos, de $\frac{1}{10}$ a $\frac{10}{10}$ (p. ej., $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, ..., $\frac{10}{10}$). En otro juego de tarjetas de índice, escriba cada uno de los números decimales, en décimos, del 0 al 1,0 (p. ej., 0,1, 0,2, 0,3, ..., 1,0). Cree un juego con las tarjetas. Por ejemplo, jueguen un juego de memoria para relacionar tarjetas de cantidades equivalentes (p. ej., $\frac{1}{10}$ y 0,1). La persona con más pares de tarjetas relacionadas gana. Para un desafío, cambie el objetivo a crear pares de tarjetas que sumen 1 (p. ej., $\frac{1}{10}$ y $\frac{9}{10}$ o 0,2 y $\frac{8}{10}$).



- Use una aplicación de mapas en un teléfono inteligente o acceda a un sitio web que se pueda usar para determinar la distancia de un lugar a otro. Ayude a su estudiante a encontrar la distancia desde su casa a cinco puntos de interés diferentes cerca de usted, como por ejemplo una gasolinera, un restaurante, una biblioteca, una oficina de correos y la escuela. Pídale que registre cada distancia, que la lea en forma decimal, que identifique el valor de cada dígito y que ordene las distancias de menor a mayor. Si no tiene acceso a un teléfono inteligente o a Internet, podría inventar las distancias.
- Complete la actividad “La alcancía”. Hable acerca de su presupuesto personal con su estudiante. Pídale que investigue el costo de un artículo que le gustaría comprar y luego presupueste una cantidad ficticia entre los ahorros para comprar el artículo, otros gastos y ahorros a largo plazo. Pídale que comparta su presupuesto.

Términos

Gasto fijo: un costo que es constante todo el tiempo.

gastos fijos	
alquiler	
seguro	
pago del auto	
tarifa de internet	
boleto del camión	

Gasto variable: un costo que puede variar o cambiar con el tiempo.

gastos variables	
compras de alimentos	comer afuera
entradas para ir al cine	electricidad
impuestos	
Gas	
ropa	

Notación decimal desarrollada: notación desarrollada que expresa unidades de valor de posición menores que uno como números decimales.

$$(p. ej., (3 \times 100) + (7 \times 10) + (8 \times 1) + (7 \times 0.1) + (3 \times 0.01) = 378.73)$$

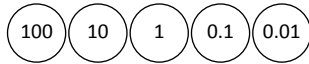
Notación fraccionaria desarrollada : notación desarrollada que expresa unidades de valor de posición menores que uno como fracciones con denominadores de 10 o 100.

$$(3 \times 100) + (7 \times 10) + (8 \times 1) + (7 \times \frac{1}{10}) + (3 \times \frac{1}{100}) = 378 \frac{73}{100}$$

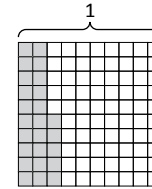


Modelos

Discos de valor de posición



Modelo de área



Recta numérica

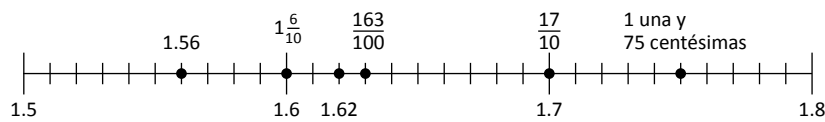
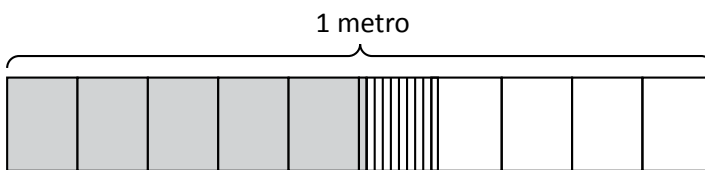


Diagrama de tiras/Metro



$$(5 \times \frac{1}{10}) + (1 \times \frac{1}{100}) = 0.51$$

0.51 metro sombreado



Grade 4 Module 7

Tips for Families

Key Concepts Overview

Focus TEKS: **4.4H, 4.5A, 4.5B, 4.8A, 4.8B, 4.8C, 4.9A, 4.9B**

The focus of Module 7 is exploring measurement (including metric units and customary units) and data, applying multiplication to convert measurement units, and problem solving with measurement. Your student will:

- ☐ Convert larger units of length, weight, mass, liquid volume, capacity, and time to smaller units of length, weight, mass, liquid volume, capacity, and time, or vice versa.
- ☐ Add and subtract mixed measurement units.
- ☐ Convert larger mixed measurement units with fractional parts to smaller units.
- ☐ Use the Read–Draw–Write process to solve word problems, including multi-step measurement word problems.
- ☐ Use a measurement data set to create frequency tables and dot plots and interpret the data.
- ☐ Create a **stem-and-leaf plot** and interpret the data.
- ☐ Use data and graphical representations to solve problems.

You can use the checklist above to help monitor your student’s progress of the knowledge and skills in this module. Daily sample problems with solutions and thought bubbles are found in the Homework Helper pages in the Succeed Student Edition to help you support your student as they work at home.

Additional Ways to Help at Home

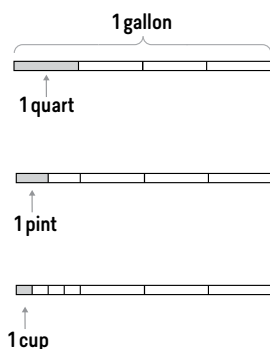
- Find packages, cartons, cans, or boxes in your kitchen that have labels that show weights or capacities. With your student, convert the measurements to smaller units or larger units. For example, your milk container might have a capacity of 2 quarts. Convert to find out how many cups that is. (2 quarts = 8 cups) Find real-world situations throughout the day that will help her think about conversions. For example, ask her whether she would have enough milk for a soup recipe requiring 9 cups if she had a 2-quart container full of milk. (No; 2 quarts is only 8 cups.)
- Find a tape measure that measures distances greater than 1 yard and show it to your student. Pull out the tape and ask him to examine the measurements. Are they metric units (i.e., centimeters) or standard units (i.e., inches)? How can he tell? Next, ask him to use the tape measure to prove the equivalence of measurements. For example, you might ask him to prove that 1 foot 3 inches is equivalent to 15 inches.
- With your student, use index cards or small pieces of paper to make eight pairs of cards that show equivalent measurements. For example, on one card, write pounds; on another card, write 52 ounces. Use measures of length, weight, capacity, and time. After you have made the cards, play a memory game with your student to match the equivalent measurements.



- Have your student measure several similar objects and record the measurements. Then have him display the data by using a dot plot and/or a stem-and-leaf plot. Your student can create a question that can be answered by using the data. For example, if he measures the heights of several pieces of furniture, a possible question is, “What is the difference in height between the tallest and shortest pieces of furniture that were measured?”

Terms

Customary system of measurement: a measurement system commonly used in the United States which includes such units as yards, pounds, and gallons



Key: the notation on a data display explaining what symbols represent

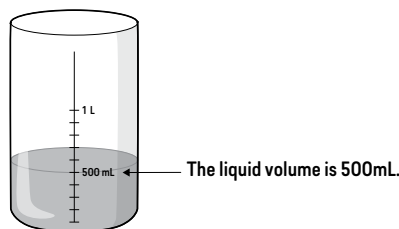
Number of Pages Read Last Week

Stem	Leaf
4	6 6 9
5	
6	0 2 2 5 6 8
7	0 5 5 7

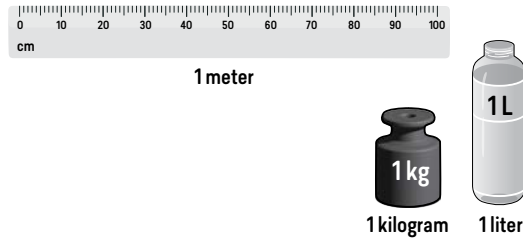
Key

6 | 2 means 62 pages

Liquid volume (*Volumen líquido*): the amount of three-dimensional space a liquid takes up



Metric system of measurement: a base-ten measurement system used internationally which includes such units as meters, kilograms, and liters



Models

Common Measurement Conversions

1 kilometer	1,000 meters
1 meter	100 centimeters
1 yard	3 feet
1 foot	12 inches
1 pound	16 ounces
1 kilogram	1,000 grams
1 liter	1,000 milliliters
1 gallon	4 quarts
1 quart	2 pints
1 pint	2 cups
1 minute	60 seconds
1 hour	60 minutes
1 day	24 hours
1 week	7 days

Frequency Table

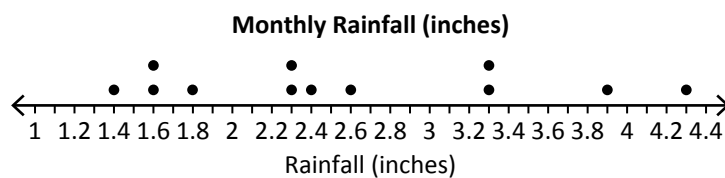
Pencil Length (inches)	Tally	Frequency
3	I	1
$3\frac{1}{2}$	I	1
4	III	3
$4\frac{1}{2}$	IIII	4
5	####	5
$5\frac{1}{2}$	III	3
6	III	3
$6\frac{1}{2}$	II	2
7	I	1
$7\frac{1}{2}$	I	1

Stem-and-Leaf Plot

Lengths of Baby Garter Snakes (cm)	
Stem	Leaf
17	9
18	1 3
19	2
20	0
21	6
22	0 0 5
23	0 0
24	5

key: 17|5 means 17.5

Dot Plot



Grado 4 Módulo 7

Consejos para las familias

Contenido general de los conceptos clave

TEKS de enfoque: **4.4H, 4.5A, 4.5B, 4.8A, 4.8B, 4.8C, 4.9A, 4.9B**

El enfoque del Módulo 7 es explorar la medición (incluyendo las unidades métricas y las medidas del sistema inglés (usual) y los datos, aplicar la multiplicación para convertir las unidades de medición y resolver problemas con medición. Se espera que su estudiante:

- ☐ Convierta unidades más grandes de longitud, peso, masa, volumen líquido, capacidad y tiempo a unidades más pequeñas de longitud, peso, masa, volumen líquido, capacidad y tiempo, o viceversa.
- ☐ Sume y reste unidades de medida mixtas.
- ☐ Convierta unidades de medida mixtas más grandes con partes fraccionarias a unidades más pequeñas.
- ☐ Use el proceso de Lee–Dibuja–Escribe para resolver problemas escritos, incluyendo problemas escritos de medición de varios pasos.
- ☐ Use un grupo de datos de medición para crear tablas de frecuencia y diagramas de puntos e interpretar los datos.
- ☐ Cree un **diagrama de tallo y hojas** e interprete los datos.
- ☐ Use datos y representaciones gráficas para resolver problemas.

Puede usar la lista de verificación anterior para ayudar a monitorear el progreso de su estudiante con los conocimientos y destrezas de este módulo. Ejemplos diarios de problemas con soluciones y burbujas de pensamiento se encuentran en las páginas de Ayuda para la tarea de Triunfar, materiales del estudiante, para ayudarlo a apoyar a su estudiante mientras trabaja en casa.

Formas adicionales de ayudar en casa

- Encuentre paquetes, cartones, latas o cajas en su cocina que tengan etiquetas que muestren pesos o capacidades. Con su estudiante, conviertan las medidas a unidades más pequeñas o unidades más grandes. Por ejemplo, su recipiente de leche puede tener una capacidad de 2 cuartos de galón. Convierta para encontrar cuántas tazas son. (2 cuartos de galón = 8 tazas) Encuentre situaciones del mundo real a lo largo del día que le ayuden a pensar en las conversiones. Por ejemplo, pregúntele si tendría suficiente leche para una receta de sopa que lleva 9 tazas si tuviera un recipiente de 2 cuartos de galón lleno de leche. (No; 2 cuartos de galón son solo 8 tazas).
- Encuentre una cinta métrica que mida distancias mayores de 1 yarda y muéstresela a su estudiante. Saque la cinta y pídale que examine las medidas. ¿Son unidades métricas (centímetros) o medidas del sistema inglés (pulgadas)? ¿Cómo puedes saberlo? Luego, pídale que use la cinta métrica para demostrar la equivalencia de las medidas. Por ejemplo, podría pedirle que demuestre que 1 pie y 3 pulgadas equivale a 15 pulgadas.
- Con su estudiante, usen tarjetas de índice o pequeños pedazos de papel para hacer ocho pares de tarjetas que muestren medidas equivalentes. Por ejemplo, en una tarjeta, escriba libras; en otra tarjeta, escriba 52 onzas. Use medidas de longitud, peso, capacidad y tiempo. Después de haber hecho las tarjetas, juegue un juego de memoria con su estudiante para relacionar las medidas equivalentes.



- Pida a su estudiante que mida varios objetos similares y registre las medidas. Luego, pídale que muestre los datos con un diagrama de puntos y/o un diagrama de tallo y hojas. Su estudiante puede crear una pregunta que se pueda contestar usando los datos. Por ejemplo, si mide la altura de varios muebles, una posible pregunta es: “¿Cuál es la diferencia de altura entre los muebles más altos y los más bajos que se midieron?”.

Términos

Clave: la notación en una representación de datos que explica lo que representan los símbolos.

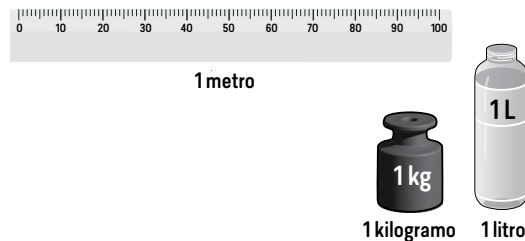
número de páginas leídas la semana pasada

tallo	hoja
4	6 6 9
5	
6	0 2 2 5 6 8
7	0 5 5 7

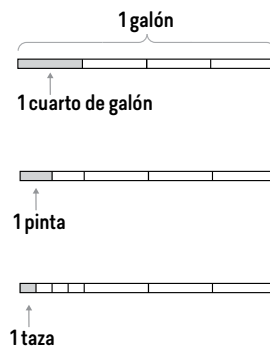
Clave

6 | 2 significa 62 páginas

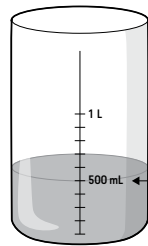
Sistema de medición métrico: un sistema de medición de base diez usado internacionalmente que incluye unidades como metros, kilogramos y litros.



Sistema de medición inglés (usual): un sistema de medición comúnmente usado en Estados Unidos que incluye unidades como yardas, libras y galones.



Volumen líquido (*Liquid volume*): la cantidad de espacio de tres dimensiones que ocupa un líquido.



el volumen de líquido es de 500 ml.

Modelos

Conversiones comunes de medidas

1 kilómetro	1,000 metros
1 metro	100 centímetros
1 yarda	3 pies
1 pie	12 pulgadas
1 libra	16 onzas
1 kilogramo	1,000 gramos
1 litro	1,000 milímetros
1 galón	4 cuartos de galón
1 cuarto de galón	2 pintas
1 pinta	2 tazas
1 minuto	60 segundos
1 hora	60 minutos
1 día	24 hora
1 semana	7 día

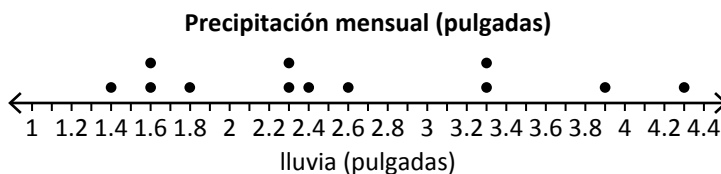
Tabla de frecuencia

longitud del lápiz (pulgadas)	cuenta	frecuencia
3	I	1
$3\frac{1}{2}$	I	1
4	III	3
$4\frac{1}{2}$	IIII	4
5	++++	5
$5\frac{1}{2}$	III	3
6	III	3
$6\frac{1}{2}$	II	2
7	I	1
$7\frac{1}{2}$	I	1

Diagrama de tallo y hojas

Longitudes de las serpientes bebé (cm)	
tallo	hoja
17	9
18	1 3
19	2
20	0
21	6
22	0 0 5
23	0 0
24	5
clave: 17 5 significa 17.5	

Diagrama de puntos



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