Simply

Good and Beautiful

MATH

2

COURSE BOOK

The Good and the Beautiful
CURRICULUM

Simply Good and Beautiful MATH 2

COURSE BOOK

Created by the Simply Good and Beautiful Math Team

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The Good and the Beautiful CURRICULUM

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Table of Contents

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ABOUT THE COURSE

Supplies Needed

Simply Good and Beautiful Math 2 Course Book
Simply Good and Beautiful Math 2 Math Box
Pencil
Crayons or colored pencils
Whiteboard and dry-erase marker

The course book will not list when you need the math box or a whiteboard and dry-erase marker, but you will use them in most lessons, so always have them on hand. Because the math box is organized into easy-to-access compartments, individual math box items needed are not listed at the beginning of the lessons.

Course Organization

The course book serves as the teacher's guide and the course book.

The course has 120 lessons divided into four units. Each unit has an assessment at the end of the unit.

If you complete four lessons a week, you will finish in a normal school year and have about four weeks left over that can account for normal breaks, sickness, and vacations.

Daily Lessons

- **Review Box—**You can choose to review these concepts at the beginning of each lesson, or you can skip them if the child has mastered the concepts.

- **Lesson—**Blue text is instructions to the parent or teacher. Black text is read to the child. Each lesson contains instruction and practice on a new concept.

- **Independent Review—**Each lesson includes one or more pages of review. The review pages can usually be done independently by the child after the instructions are explained to him or her. The concepts reviewed are from previous lessons. This means the child can complete the review page before the lesson, if needed, while you work with another child.

Lesson 4

SPELLING 13, 14, AND 15

Odd Numbers + Counting Backward
- Have the child tell you what every odd number ends with. [1, 3, 5, 7, or 9]
- Have the child skip count by 50s from 50 to 300.
- Have the child count backward from 20 to 1.

○ Read to the child: Today we get to play a space game. You will need to know how to spell 13, 14, and 15, so first complete this spelling practice.

thirteen
fourteen
fifteen

○ **Planet Path Game:** Give the child the rocket from the math box. Read to the child: In this game you will try to visit all the planets on the page without getting stuck! You'll begin on Mars, so place your rocket on Mars. To move your rocket to another planet, you must first spell aloud the number on the planet. Mars has the number 13 on it, so you'll spell the number word for 13. If you spell the number word correctly, you can move your rocket 1 planet up, down, sideways, or diagonally. You're not allowed to skip planets or go back to planets that you've already visited. If you get stuck and can't move, place your rocket back on Mars and start again. (Please note that Pluto is a dwarf planet.)

Planet Path Game

13 Mars	14 Earth	13 Venus
15 Jupiter	14 Saturn	15 Uranus
15 Pluto	14 Neptune	13 Mercury

○ Have the child write the number word represented by the blocks.

INDEPENDENT REVIEW

Count by 50s to fill in the missing numbers.

50		150		250		350		

Complete the addition problems by counting by 50s. If needed, use the chart above.

$50 + 50 + 50 =$ 　　　　$150 + 50 + 50 =$

Complete the subtraction problems.

$$\begin{array}{r} 6 \\ -1 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ -2 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ -1 \\ \hline \end{array}$$

Draw a line from each doubles addition problem to the correct answer on a planet.

$9 + 9 =$
$8 + 8 =$
$7 + 7 =$
$3 + 3 =$
$6 + 6 =$
$5 + 5 =$

18　6　12　16　14　10

Write and complete the problem for the story.

Neptune has 14 moons. Mars has 2 moons.

How many moons do Neptune and Mars have total?

　　　 + 　　　 =

Frequently Asked Questions

How do I get started?

Gather the supplies needed. You are then ready to open to the first lesson and follow the instructions. You do not need to read the lessons before teaching them.

How long are lessons?

For children right on level with the lessons, most lessons take 20–25 minutes.

- If the child takes longer than 20–25 minutes per lesson but is understanding and retaining the information, don't worry; complete as much of a lesson as the child's attention span allows each day. It is OK if this course takes longer than a school year to complete.

- If the child takes less than 20–25 minutes per lesson and is learning new things, we suggest not moving to Math 3 so that the child does not have holes in his or her math foundations. Rather, consider having the child do multiple lessons a day and move through the course quickly before starting Math 3.

- If the child takes less than 20–25 minutes per lesson and seems to already know all the information, consider having the child take the assessments in the course (see the Table of Contents) to see if the child can skip any units or the whole course.

Our thorough piloting program proved that most children in Grade 2 thrive with having math for 20–25 minutes a day, as this curriculum is carefully designed to maximize time and effectiveness. If you or the child feels more time is needed, consider doing two lessons a day.

Is Math 2 a spiral or mastery program?

Math 2 is mainly a spiral curriculum, constantly reviewing concepts the child has learned to ensure he or she understands and retains the information.

Do you include any specific doctrine?

No, the goal of our curriculum is not to teach doctrines specific to any particular Christian denomination but to teach general principles, such as honesty, hard work, and kindness. All Bible references in our curriculum use the King James Version.

Is there an answer key?

Yes, you can find the answer key by clicking on the "FAQs and Extras" button from the Math 2 page on goodandbeautiful.com. The answer key is a free download.

You may also purchase a physical answer key under the "Individual Items" section of the Math 2 page at goodandbeautiful.com.

UNIT 1 OVERVIEW

⮞ LESSONS 1–33 ⮜

New Concepts Taught
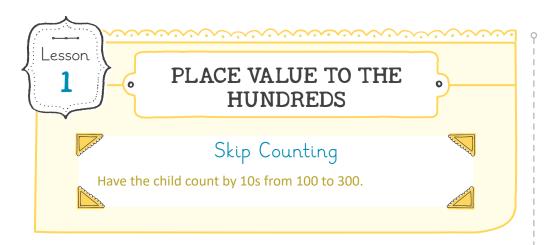
- Add and subtract two-digit numbers
- Addition strategies
- Calendars
- Count and write money amounts
- Count backward
- Count coins and bills
- Divide in half
- Doubles addition and subtraction
- Dozen and half dozen
- Estimating
- Equivalent coins
- Greater than, less than, equal
- Identify AM and PM
- Identify and write numbers to 1,000
- Identify noon and midnight
- Identify odd and even numbers
- Logic
- Measure inches
- Number lines
- Number order
- One more, one less
- Ordinal positions
- Patterns
- Place value to 1,000
- Regrouping
- Round to the nearest 10
- Skip counting by 2s, 3s, 5s, 10s, 25s, and 50s
- Spell number words to 15
- Story problems
- Subtraction strategies
- Tally marks
- Tell time to 5 minutes
- Time conversions
- Time expressions
- Zero as a placeholder

Parent/Teacher Tips

- If the months of the year are not memorized, have the child watch the "Months of the Year Song" video on The Good and the Beautiful Kids YouTube channel daily until mastered.

- This course refers to optional videos on The Good and the Beautiful Kids YouTube channel. Consider getting the free YouTube app on your phone and liking the videos. Then you can quickly access your liked videos from the library button at the bottom of your app.

- Children working on the Math 2 course should be able to do addition and subtraction math facts quickly. If more practice could be used, consider using the games *Anteater Addition* and *Snowy Owl Subtraction* (available to purchase at goodandbeautiful.com). These simple games can also be used just as flash cards.

PLACE VALUE TO THE HUNDREDS

Skip Counting

Have the child count by 10s from 100 to 300.

○ **Write "32" on the whiteboard. Read to the child:** A digit is a symbol used to write a number. Digits include the counting numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. Look at the number on the whiteboard. This number has two digits. The digit on the right is 2 and is located in the ones place. The digit to the left is 3 and is located in the tens place.

Write "145" on the whiteboard. Read to the child: How many digits does this number have? [3] Three-digit numbers have one digit in the ones place, one digit in the tens place, and one digit in the hundreds place. What digit is in the ones place? [5] The tens place? [4] The hundreds place? [1]

Place value is how much a digit represents based on its place in a number. The place value of the 4 in the tens place is 40, and the place value of the 1 in the hundreds place is 100. What is the place value of the 5 in the ones place? [5]
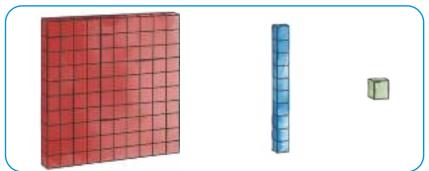
We will use images of base-10 items in this course. A single one block represents the number 1. What number do 3 one blocks represent? [3] Ten one blocks together would make 1 ten stick.

If we have 1 ten stick, we have 10 one blocks. If we have 2 ten sticks, we have 20 one blocks. If we have 3 ten sticks, how many one blocks do we have? [30]
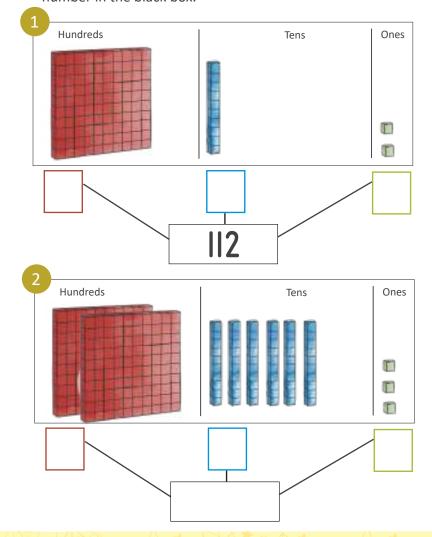
A hundred square has 100 one blocks. It takes 10 ten sticks to make 1 hundred square. If we have 2 hundred squares, how many one blocks in total would
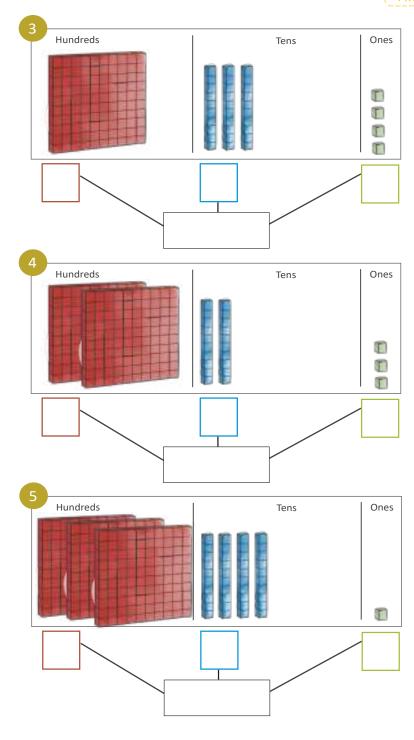
we have? [200] If we have 5 hundred squares, how many one blocks in total would we have? [500]

○ **Read to the child:** Let's practice place value by doing an activity. I'll ask you a question, and you point to the base-10 item at the bottom of the page that answers the question correctly.

- If I have 9 ten sticks, I have 90 one blocks. If I get 1 more ten stick, what base-10 item could I trade the ten sticks for? [1 hundred square]

- If I have 9 one blocks, I have 9 blocks. If I get 1 more one block, what base-10 item could I trade the one blocks for? [1 ten stick]

○ **Read to the child:** Let's do another activity to practice place value by using the base-10 items at the bottom of this column.

- To equal the number 300, which base-10 item would you need three of? Find it and tap it three times.

- To equal the number 20, which base-10 item would you need two of? Find it and tap it two times.

- To equal the number 3, which base-10 item would you need three of? Find it and tap it three times.

- To equal the number 200, which base-10 item would you need two of? Find it and tap it two times.

- To equal the number 5, which base-10 item would you need five of? Find it and tap it five times.

○ **Read to the child:** Look at box #1 below. Point to the ones column and tell me how many one blocks are in it. [2] Write "2" in the green box. A ten stick is a stick with 10 blocks. Point to the tens column and tell me how many ten sticks are in it. [1] Write "1" in the blue box. A hundred square is made of 10 ten sticks, and 10 ten sticks equal a hundred square. Point to the hundreds column and tell me how many hundred squares are in it. [1] Write "1" in the red box. Look in the black box. When we put all the digits together, what is the number? [112] For each box below, do the same thing you did for the first box, but also write the final number in the black box.
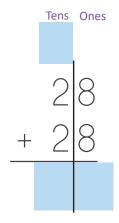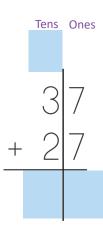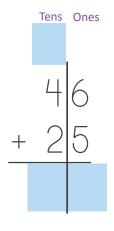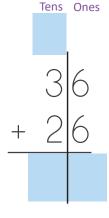
1

Hundreds	Tens	Ones

112

2

Hundreds	Tens	Ones

3

Hundreds	Tens	Ones

4

Hundreds	Tens	Ones

5

Hundreds	Tens	Ones

Complete each problem.

Tens	Ones
2	8
+ 2	8

Tens	Ones
3	7
+ 2	7

Tens	Ones
4	6
+ 2	5

Tens	Ones
3	6
+ 2	6

Tens	Ones
3	5
+ 1	5

Tens	Ones
2	8
+ 2	3

Tens	Ones
3	8
+ 1	4

Tens	Ones
3	7
+ 2	4

Write the number that answers each question.

How many days are in a week?

Leap year happens every how many years?

How many days of the week are in a weekend?
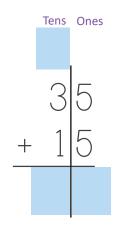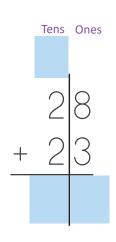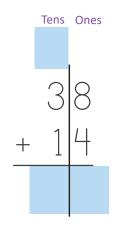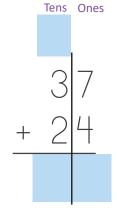
Write one of your parents' phone numbers.
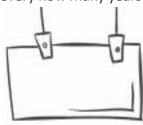
Write your birthday by including the month, day, and year.

DIVIDING GROUPS OF COINS IN HALF

Days in Each Month Poem

Have the child practice memorizing the poem. Ask the child how many days are in January, March, May, and June.

How many days are in each month? It's clear!
February has 28, but 29 each leap year.
Thirty days are in September,
April, June, and November.
The rest have 31.
The rest have 31.

Extra Item

scissors

Skip Counting

Have the child skip count by 3s from 3 to 18 two times. If needed, have him or her use the chart.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

○ **Read to the child:** Carl decided to give half of what he made collecting shells this week to his friend Ron, who needs a new hearing aid. Cut out the boxes of coins on this page. Cut each box into two pieces so there is an equal amount of money on both pieces. Place the new cut pieces in the two boxes below for Carl and his friend. Once divided, add up the totals and write them in each box.

Carl

Donation
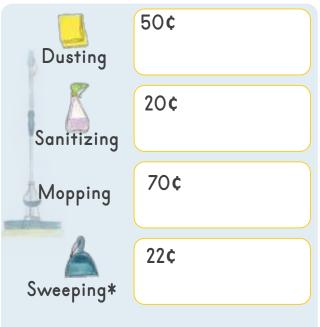
○ Give the child five of each coin: penny, nickel, dime, and quarter. **Read to the child:** Carl's sister Beth wants to give half of her earnings from her cleaning job to help Carl's friend. Each box shows how much she makes from each job. Place the fewest number of coins needed to equal the total in each box. Then divide each group in half and stack half the coins on the donation box. Count her total donation.

Dusting — 50¢

Sanitizing — 20¢

Mopping — 70¢

Sweeping* — 22¢

*Have the child use nickels and pennies for the last one.

Donation
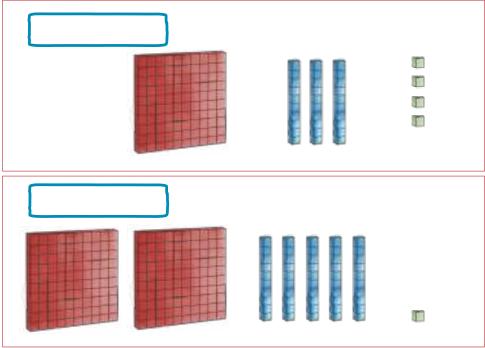
Write the number represented by the base-10 items.

Complete each problem.

Tens	Ones
1	6
+ 2	5

Tens	Ones
1	7
+ 1	8

Tens	Ones
4	8
+ 2	4

Tens	Ones
3	9
+ 1	5

This area is blank for double-sided printing and cutting purposes.
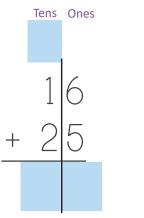
Draw the hands on each clock to show the time given.

half past 5

8:15

4:45

nine-thirty
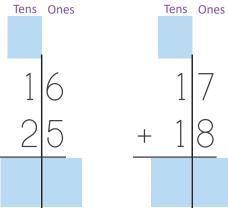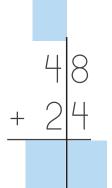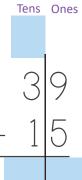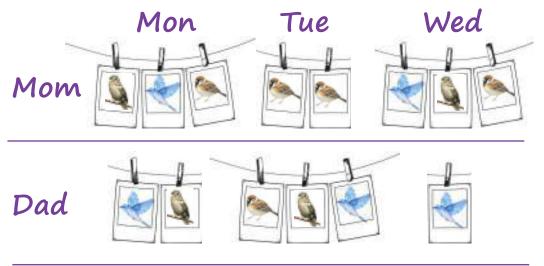
The birds that Mom, Dad, and Ellie Clark saw on their campout are shown below. Put an X on the graph each time a bird was seen on their campout. On the graph, circle the type of bird that was seen the most.

Mon   Tue   Wed

Mom

Dad

Ellie

8
7
6
5
4
3
2
1

Divide the total value of each group of coins in half by drawing a line between the coins.

© Jenny Phillips

Complete each problem.

Tens Ones

$$\begin{array}{r} 5\,9 \\ +\ 2\,9 \\ \hline \end{array}$$

Tens Ones

$$\begin{array}{r} 5\,7 \\ +\ 2\,7 \\ \hline \end{array}$$

Tens Ones

$$\begin{array}{r} 4\,7 \\ +\ 4\,5 \\ \hline \end{array}$$

Tens Ones

$$\begin{array}{r} 4\,6 \\ +\ 2\,6 \\ \hline \end{array}$$

Tens Ones

$$\begin{array}{r} 3\,5 \\ +\ 3\,5 \\ \hline \end{array}$$

Tens Ones

$$\begin{array}{r} 2\,7 \\ +\ 2\,3 \\ \hline \end{array}$$

Tens Ones

$$\begin{array}{r} 4\,8 \\ +\ 3\,8 \\ \hline \end{array}$$

Tens Ones

$$\begin{array}{r} 2\,9 \\ +\ 5\,9 \\ \hline \end{array}$$
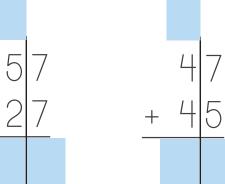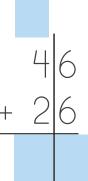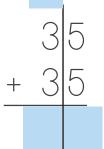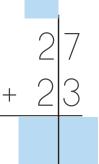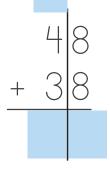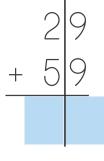
Write the number of days each month has during a leap year.

January

February

March

Write one of your parents' phone numbers.

Write the number that answers each question.

How many days are in a week?
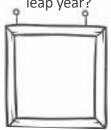
Leap year happens every how many years?

How many days are in February during a non-leap year?

TIME: PART 4

Time

Ask when a new day starts [12 AM] and what time noon is. [12 PM] Have the child repeat the poem several times.

♪ AM is the morning when birds wake up and sing.
PM is the evening when songbirds go to sleep.
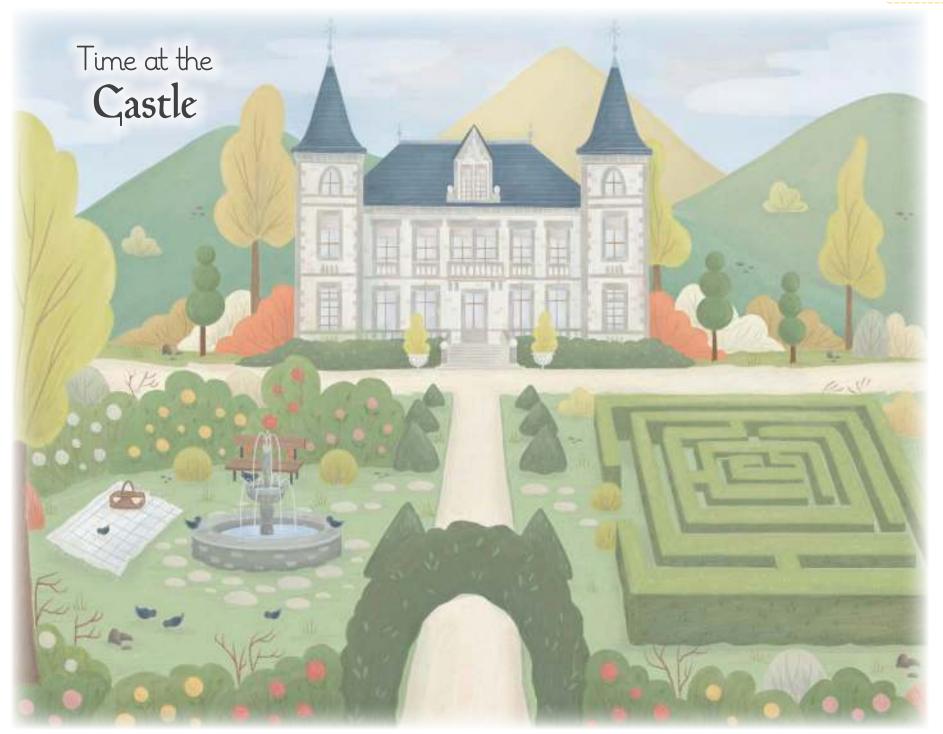
○ Get a timer or pull up a timer on your phone. Read to the child: There are 60 seconds in a minute. Let's watch a minute go by on the timer and count with it. Count with a timer for a minute. That was one minute. An hour has 60 minutes in it. So, if we sat here and watched a minute go by 60 times, that is how long an hour would take. One day has 24 hours. Look at the picture of the castle garden on the next page. I will tell you about an activity. You will point to the place on the picture where the activity would take place and tell me if it would be more likely to take 2 seconds, 2 minutes, or 2 hours.

- Cut four roses from a rose bush.
- Throw one handful of seeds to the birds.
- Trim all the rose bushes.
- Run through the maze.
- Sit on the bench and read a long book.
- Have a picnic on the grass and play a long board game.
- Put all the food back into the picnic basket and fold the blanket.
- Throw a penny into the fountain.
- Sing one song to the birds.
- Paint a detailed picture of the castle gardens.

○ Read to the child: Write the correct number on the crown to complete the problem. Then say the phrase aloud. [1 hour equals 60 minutes, etc.]

1 hour = [   ] minutes

1 day = [   ] hours

1 minute = [   ] seconds

○ Read to the child: How many hours are in one day? [24] Let's suppose you stay at the castle for 2 days. Write and complete a problem to find out how many hours you will spend in the castle in total.
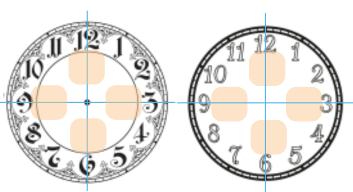
○ Read to the child: It takes 2 hours to drive to the castle. Write and complete a problem to find out how many minutes it takes you to drive to the castle.

Time at the Castle
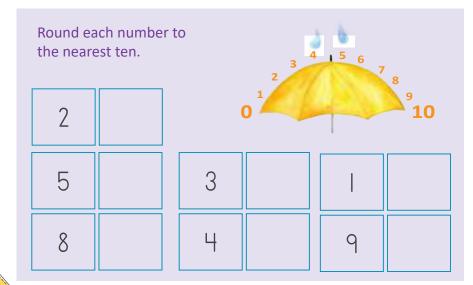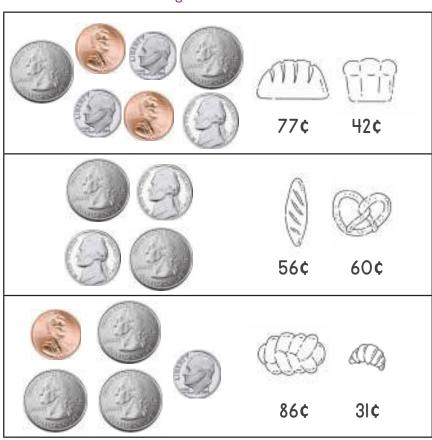
Color or circle the item that is in the given position, starting from the left.

6th

9th

In the orange boxes, write the quarters of the clock: 15, 30, 45, and 00.

Round each number to the nearest ten.

2	

5		3		1	
8		4		9	

0 1 2 3 4 5 6 7 8 9 10
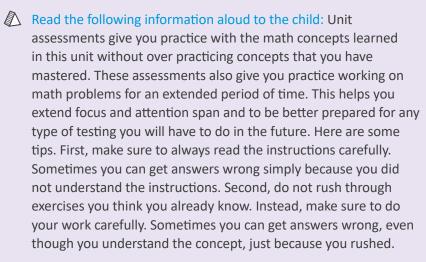
In each box color or circle the item that has the price shown by the group of coins. Remember when counting groups of coins to count the coins with the highest value first.

77¢   42¢

56¢   60¢

86¢   31¢

Complete each problem. Don't forget to carry the 1 into the tens column.

$$\begin{array}{r} 46 \\ + 36 \\ \hline \end{array} \quad \begin{array}{r} 58 \\ + 38 \\ \hline \end{array} \quad \begin{array}{r} 69 \\ + 29 \\ \hline \end{array} \quad \begin{array}{r} 35 \\ + 46 \\ \hline \end{array} \quad \begin{array}{r} 57 \\ + 24 \\ \hline \end{array}$$

UNIT ASSESSMENT

LESSONS 32-33

Parent/Teacher

✎ Read the following information aloud to the child: Unit assessments give you practice with the math concepts learned in this unit without over practicing concepts that you have mastered. These assessments also give you practice working on math problems for an extended period of time. This helps you extend focus and attention span and to be better prepared for any type of testing you will have to do in the future. Here are some tips. First, make sure to always read the instructions carefully. Sometimes you can get answers wrong 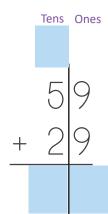simply because you did not understand the instructions. Second, do not rush through exercises you think you already know. Instead, make sure to do your work carefully. Sometimes you can get answers wrong, even though you understand the concept, just because you rushed.

✎ For Lesson 32 have the child complete all the exercises with purple headers only. At this level you may need to read all or some of the instructions to the child. Correct the work. If the child makes one or more mistakes in a section, explain the concept and check the orange "Additional Practice" checkbox for that section.

✎ For Lesson 33 have the child complete all the orange sections **that are checked**. If the child still makes multiple mistakes, make sure the child understands why. All the principles will be reviewed again in upcoming units. If the child has only a few or no orange sections to practice, the child may spend time doing math games or move on to the next lesson.

Note: All concepts in Unit 1 will be reviewed throughout the rest of the course, but less frequently.

Student

SKIP COUNTING

Figure out what number each row is skip counting by and fill in the missing numbers.

3		9				
	20	30				70
25	50	75				
50		150				

Additional Practice

Skip count by the first number shown, filling in the blank lines.

3, _____, _____, _____, _____, _____, _____

10, _____, _____, _____, _____

25, _____, _____, _____, _____

50, _____, _____, _____, _____

✦ SPELLING 12, 13, 14, AND 15/TALLY MARKS ✦

With number words, write the number of tally marks in each box.

卌 卌 III	
卌 卌 II	
卌 卌 IIII	
卌 卌 卌	

📖 Additional Practice

Write tally marks and the number word that represent each number.

12	
14	
13	
15	

✦ BILLS ✦

For each dollar amount shown, circle the bills you would use to equal the dollar amount. Use the fewest number of bills. (Hint: Circle the highest-value bills you can use first.)

$172

$10	$20	$1	$1
$50	$100	$20	$20

$146

$10	$20	$1	$5
$50	$100	$20	$20

📖 Additional Practice

For each dollar amount shown, circle the bills you would use to equal the dollar amount. Use the fewest number of bills. (Hint: Circle the highest-value bills you can use first.)

$131

$10	$20	$1	$1
$50	$100	$20	$20

$185

$10	$20	$1	$5
$50	$100	$20	$20

UNIT 2 OVERVIEW

✎ LESSONS 34–61 ✎

New Concepts Taught

o Add 3 one-digit numbers

o Add and subtract 10

o Add and subtract 100

o Add and subtract money

o Add numbers with three or more digits

o Check addition with subtraction

o Commutative property

o Elapsed days and weeks

o Elapsed time to hours, half hours

o End time

o Fact families

o Identify feet and yards

o Identify fractions

o Measure length in the metric system

o Measure length in the US customary system

o Measure using inches and centimeters

o Mental addition

o Regroup in addition

o Spell number words up to 19

o Tell time to the quarter hour and minute

o Thermometers

o Write numbers in expanded form

Parent/Teacher Tips

o To make math and learning apply even more to real life, think of times throughout the day that you can point out principles you are learning. Here are some examples:
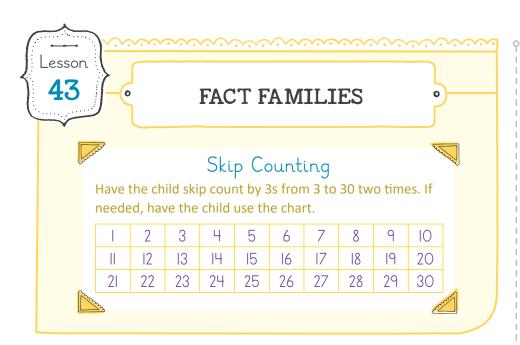
"Look! It's 2:30 PM. What time will it be in half an hour?"

"Those croissants look delicious! How many would we buy if we wanted a dozen of them?"
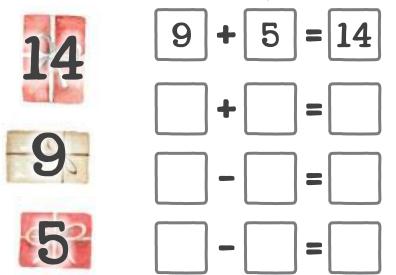
"Hey, there are 6 bananas in that bunch. If we're rounding to the nearest 10, would that round down to 0 or up to 10?"

"Look at that caterpillar! Would you measure it in inches or feet?"

"Now if I divide this cake into 6 pieces and give you 1 piece, what fraction of the cake did I give you?"

o Even if the child can do the activities in the opening box, reviewing helps increase speed and cement principles long-term. However, look for cues that the child is getting tired of a certain activity if it is already mastered.

o A real thermometer can be a lot of fun for the thermometer lesson in Lesson 58. You can measure body temperature and the temperature of cups of cold and warm water.

FACT FAMILIES

Have the child skip count by 3s from 3 to 30 two times. If needed, have the child use the chart.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

○ **Read to the child:** Do you remember what a fact family is? A fact family is a set of four math facts made with the same three numbers. The presents below have numbers on them that can be made into four different math facts. The first one is done for you. Fill in the rest.

14

9

5

$$9 + 5 = 14$$

$$\boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} - \boxed{} = \boxed{}$$

$$\boxed{} - \boxed{} = \boxed{}$$

○ **Read to the child:** On the next column and following page, write the fact families on the houses by using the three numbers at the top to make four different math facts.

7 12 5

$$\boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} - \boxed{} = \boxed{}$$

$$\boxed{} - \boxed{} = \boxed{}$$

8 13 5

$$\boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} + \boxed{} = \boxed{}$$

$$\boxed{} - \boxed{} = \boxed{}$$

$$\boxed{} - \boxed{} = \boxed{}$$

House 1: 9, 15, 6

☐ + ☐ = ☐

☐ + ☐ = ☐

☐ − ☐ = ☐

☐ − ☐ = ☐

House 2: 7, 13, 6

☐ + ☐ = ☐

☐ + ☐ = ☐

☐ − ☐ = ☐

☐ − ☐ = ☐

House 3: 6, 8, 2

☐ + ☐ = ☐

☐ + ☐ = ☐

☐ − ☐ = ☐

☐ − ☐ = ☐

AM starts at midnight and goes to 11:59 AM.
PM starts at noon and goes to 11:59 PM.

Circle the time shown on each clock, considering the activity Tim is doing.

Tim is sleeping.

4:15
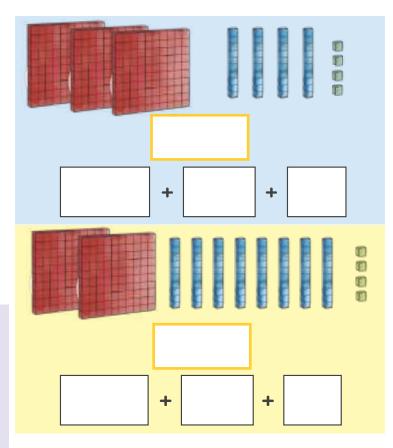
quarter past 4 PM

quarter past 4 AM

Tim is eating dinner.

5:45

quarter to 6 PM

quarter to 6 AM

Tim is waking up in the morning.

6:45

quarter to 7 PM

quarter to 7 AM

Complete each addition or subtraction problem.

67	243	65	85	66
- 13	+ 431	- 23	+ 43	- 33

Complete the pattern.

Write the standard form of the number (in the orange box) and then the expanded form (in the black boxes) for each set of base-10 blocks.

☐ + ☐ + ☐

☐ + ☐ + ☐

Tina's —Tiny— Framing Shop

----- **INDEPENDENT REVIEW** -----

In each box write the total time it took Tina to make the frame for each painting. The start and end times are given. When you have half-hour increments, write them like this: $1\frac{1}{2}$ hours, $2\frac{1}{2}$ hours, and so on.

3

Started: 2:30 PM
Ended: 3:00 PM

hours

6

Started: 9:30 AM
Ended: 10:00 AM

hours

5

Started: 9:00 AM
Ended: 10:30 AM

hours

4

Started: 12:00 PM
Ended: 8:30 PM

hours

Paintings by Caspar David Friedrich (1774–1840)

1. "The Midday," 1821
2. "Hill and Ploughed Field near Dresden," c. 1824
3. "Meadows near Greifswald," 1822
4. "The Watzmann," 1824-1825
5. "Mountain Peak with Drifting Clouds," c. 1835
6. "Rocky Ravine in the Elbe Sandstone Mountains," 1822-1823
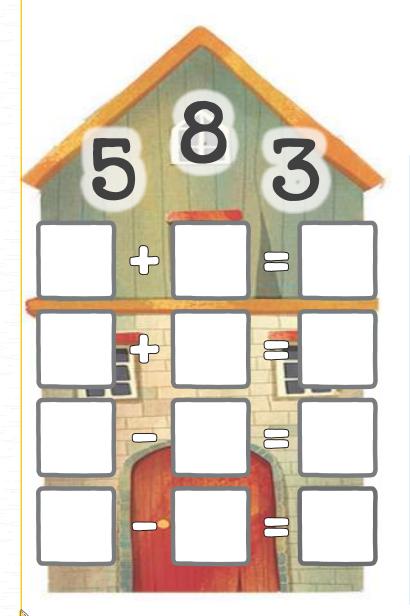
Complete the fact family using the numbers at the top of the house.

5 8 3

☐ + ☐ = ☐

☐ + ☐ = ☐

☐ - ☐ = ☐

☐ - ☐ = ☐

Complete each problem.

$$19 - 5$$ $$27 - 4$$ $$28 - 7$$ $$16 - 5$$ $$4 - 1$$
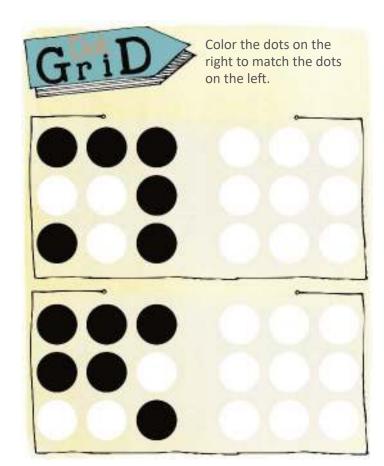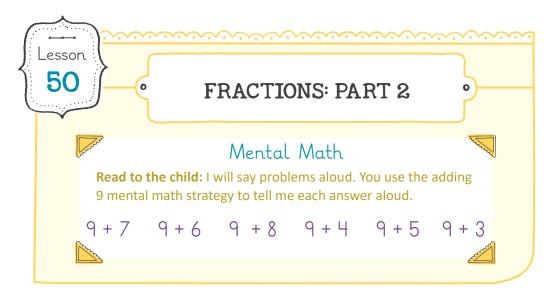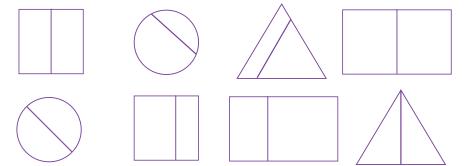
Circle the one that is different.

Color the dots on the right to match the dots on the left.

GriD

Lesson
50

FRACTIONS: PART 2

Mental Math

Read to the child: I will say problems aloud. You use the adding 9 mental math strategy to tell me each answer aloud.

$9 + 7$ $9 + 6$ $9 + 8$ $9 + 4$ $9 + 5$ $9 + 3$
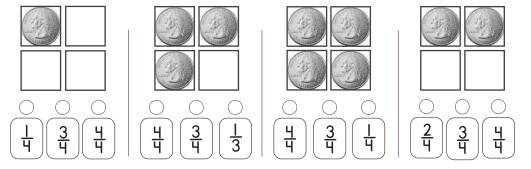
○ **Read to the child:** Circle the shapes that are divided into equal parts.
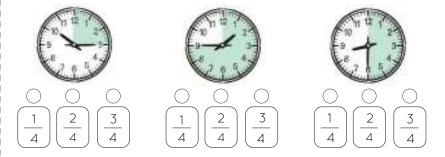
○ **Read to the child:** A fraction is part of a whole. Fractions have two numbers with a line between the numbers. The bottom number tells how many equal parts a whole is divided into. The top number tells how many parts are shaded or used. Four quarters equal a dollar. Under each quarter or group of quarters, fill in the circle that shows what fraction of a dollar it is.

$\frac{1}{4}$ $\frac{3}{4}$ $\frac{4}{4}$ $\frac{4}{4}$ $\frac{3}{4}$ $\frac{1}{3}$ $\frac{4}{4}$ $\frac{3}{4}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$

○ **Read to the child:** For each group of three turtles, fill in the fraction that shows what fraction of the turtles have a yellow shell. Remember, the total number of turtles goes on the bottom of the fraction.

____   ____

○ **Read to the child:** An hour can be divided into four quarters. Fill in the circle that shows what fraction of an hour is shown on each clock.

$\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$
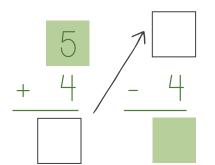
○ **Take the fraction dice from the math box. Read to the child:** Let's play the "Fraction Dice Game." You roll the two dice at the same time. If both dice show the same fraction, fill in a box under "Child." If both dice do not show the same fraction, it is my turn. The first person to get their boxes filled wins. This is a game of chance and gives practice recognizing fractions. We will play this quick game several times in the course.

Fraction Dice
Game

Child   Teacher

Check Your Addition Problems with Subtraction

$$5 \quad \rightarrow \quad \square$$
$$+ \ 4 \qquad - \ 4$$
$$\square \qquad \square$$

$$6 \quad \rightarrow \quad \square$$
$$+ \ 3 \qquad - \ 3$$
$$\square \qquad \square$$

Complete each problem.

$$\begin{array}{r} 19 \\ - \ 8 \\ \hline \end{array} \qquad \begin{array}{r} 18 \\ - \ 4 \\ \hline \end{array} \qquad \begin{array}{r} 29 \\ - \ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ - \ 5 \\ \hline \end{array} \qquad \begin{array}{r} 8 \\ - \ 3 \\ \hline \end{array} \qquad \begin{array}{r} 59 \\ - \ 7 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ - \ 3 \\ \hline \end{array} \qquad \begin{array}{r} 9 \\ - \ 3 \\ \hline \end{array} \qquad \begin{array}{r} 58 \\ - \ 4 \\ \hline \end{array}$$
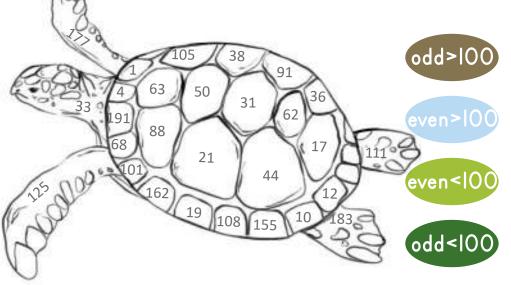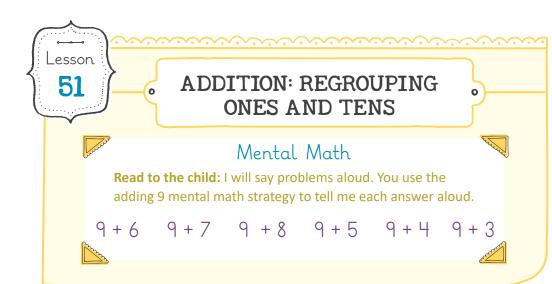
For each amount shown, circle the coins you would use to equal the amount. Use the fewest number of coins. (Hint: Circle the highest-value coins you can use first.)

78¢

67¢
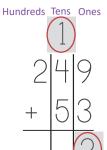
Color the turtle using the color key. Example: You would color 105 brown because it is an odd number greater than 100.

177
105
38
1
91
63
50
4
31
36
33
62
191
88
68
17
21
111
101
44
125
162
12
19
108
155
10
183

odd>100

even>100

even<100

odd<100

Lesson 51

ADDITION: REGROUPING ONES AND TENS

Mental Math

Read to the child: I will say problems aloud. You use the adding 9 mental math strategy to tell me each answer aloud.

9 + 6   9 + 7   9 + 8   9 + 5   9 + 4   9 + 3

○ **Read to the child:** Let's review. If any column in addition adds up to more than 9, we carry a digit to the top of the next column. Carrying a number like this is called **regrouping**. Write this problem on the whiteboard:

$$\begin{array}{r} 249 \\ + 53 \\ \hline \end{array}$$

First, add the numbers in the ones column. 9 + 3 is 12. 12 is 1 ten and 2 ones. Write the 2 ones in the ones column and write the 1 at the top of the tens column.
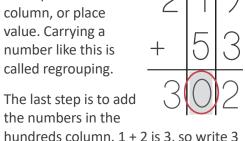
Hundreds Tens Ones

$$\begin{array}{r} ^{1} \\ 249 \\ + 53 \\ \hline 2 \end{array}$$

Now add the numbers in the tens column.

1 + 4 + 5 is 10. We have 10 tens, but we can't put "10" in the tens column. The 0 goes in the tens place, and we write the 1 in the hundreds column because 10 tens equal 1 hundred. Remember, if the numbers in any column add up to more than 9, we carry a digit to the top of the next column, or place value. Carrying a number like this is called regrouping.
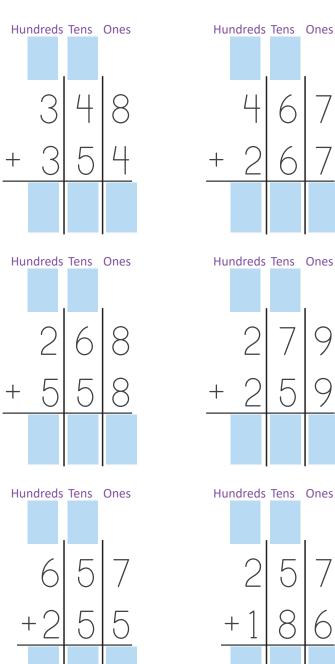
Hundreds Tens Ones

$$\begin{array}{r} ^{1}\;\;\;1 \\ 249 \\ + 53 \\ \hline 302 \end{array}$$

The last step is to add the numbers in the hundreds column. 1 + 2 is 3, so write 3 in the hundreds place.

○ Have the child complete the problems.

Hundreds Tens Ones

$$\begin{array}{r} 3\;4\;8 \\ + 3\;5\;4 \\ \hline \end{array}$$

Hundreds Tens Ones

$$\begin{array}{r} 4\;6\;7 \\ + 2\;6\;7 \\ \hline \end{array}$$

Hundreds Tens Ones

$$\begin{array}{r} 2\;6\;8 \\ + 5\;5\;8 \\ \hline \end{array}$$

Hundreds Tens Ones

$$\begin{array}{r} 2\;7\;9 \\ + 2\;5\;9 \\ \hline \end{array}$$

Hundreds Tens Ones

$$\begin{array}{r} 6\;5\;7 \\ + 2\;5\;5 \\ \hline \end{array}$$

Hundreds Tens Ones

$$\begin{array}{r} 2\;5\;7 \\ + 1\;8\;6 \\ \hline \end{array}$$

○ **Read to the child:** We measure the distance an airplane flies in miles or kilometers. This airplane can fly 175 miles in an hour. That means it takes this airplane about 20 seconds to fly a mile! That is much faster than walking a mile in 20 minutes! Look at this image. About how many kilometers can the airplane travel in the same distance as four miles?
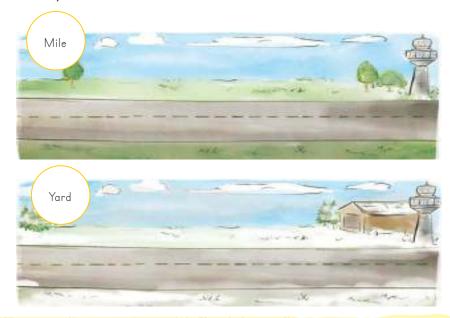
I mile

I kilometer
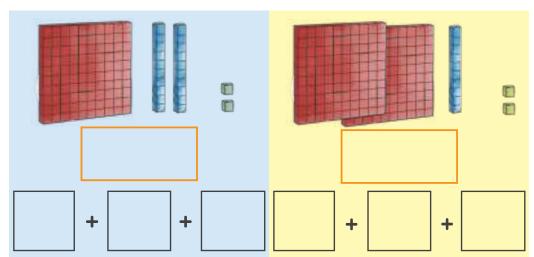
○ **Take an airplane from the math box. Read to the child:** Let's do an activity to review what we learned in this lesson. I will read you a sentence, and you place the airplane on the airport that is labeled with the right answer. Read to the child the following questions and statements. Check the answer key for answers if needed. Repeat the set of questions as many times as needed. 1) You can walk this far in about 20 minutes. 2) You ca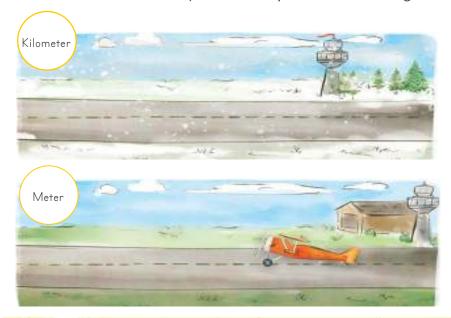n walk this far in about 12 minutes. 3) Would you use yards or miles to measure the length of a kitchen table? 4) Which is longer: a mile or a kilometer? 5) Would you use meters or kilometers to measure your height? 6) Which is longer: a yard or a meter? (Look at the wagon picture on the previous page.) 7) What would you measure the size of an ocean with: miles or yards? 8) What would you measure the height of a tree with: kilometers or meters? 9) What would you measure the length of a boat with: miles or yards?

Kilometer

Mile

Meter

Yard
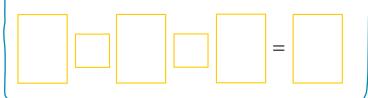
Write the standard form and expanded form for each set of base-10 blocks.

[ ] + [ ] + [ ]

[ ] + [ ] + [ ]

Write and complete the problem for the story.
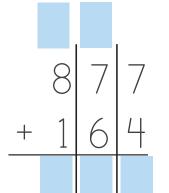
Matt saw 50 stars in his telescope.

Some clouds covered up 25 of the stars, and then other clouds covered up 25 more stars. How many stars can he see now?
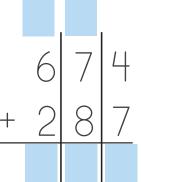
[ ] [ ] [ ] [ ] = [ ]

Complete the problems.

Hundreds	Tens	Ones
8	7	7
+ 1	6	4

Hundreds	Tens	Ones
6	7	4
+ 2	8	7

Hundreds	Tens	Ones
5	8	7
+ 3	4	5
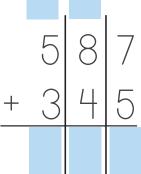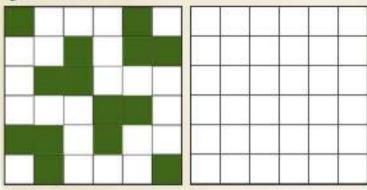
Square GriD

Color the squares on the right to match the squares on the left.

Count by 25s to fill in the missing numbers.

75				175		225	

ROUNDING TO THE NEAREST 10: PART 2

Skip Counting

- Have the child skip count by 3s from 21 to 33.

- Have the child skip count backward by 25s from 525 to 300.
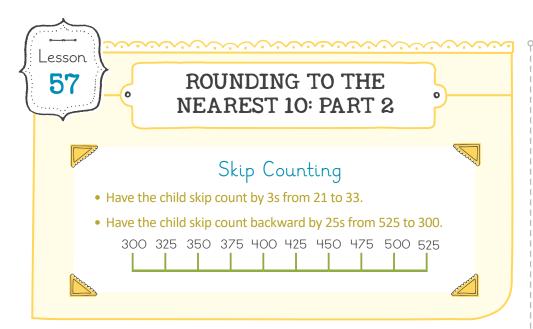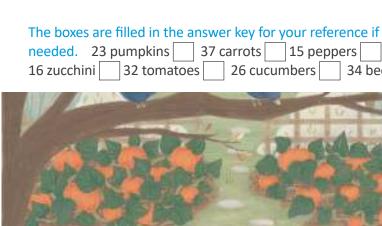
300 325 350 375 400 425 450 475 500 525

○ Read to the child: When we round a number to the nearest 10, we determine if the number is closer to the multiple of 10 less than or greater than that number. For example, if someone asks you how many tomato plants your family grew in the garden this year, you may not know exactly how many. You know it might be 19, 20, or 21, but you can't remember exactly. You might say, "We have around 20 tomato plants," because 20 is a nice, easy number.

Point to 13 on the second umbrella below. Numbers that end with the digit 1, 2, 3, or 4 round down to the 10 before the number. Slide your finger from 13 to 10. Now point to 17. Numbers that end with the digit 5, 6, 7, 8, or 9 round up to the next 10. Slide your finger from 17 to 20.

Look at the illustration of an amazing garden on this page. I'm going to tell you the number of each type of vegetable in the garden, and you round it to the nearest 10.

The boxes are filled in the answer key for your reference if needed.   23 pumpkins ☐   37 carrots ☐ 15 peppers ☐
16 zucchini ☐   32 tomatoes ☐   26 cucumbers ☐   34 beets ☐

4 5
3   6
2   7
            8
1   9
0   10

14 15
13   16
12   17
11   18
            19
10   20

24 25
23   26
22   27
21   28
            29
20   30

34 35
33   36
32   37
31   38
            39
30   40

~ INDEPENDENT REVIEW ~

Draw a line from each blue item below to the units that are more reasonable. It takes about 20 minutes to walk a mile, and a meter is about as long as a wagon.

the distance between two big cities

the length of the Amazon River

the length of your bed

the length of the Great Wall of China

the distance an airplane flew

Miles/ Kilometers

Yards/Meters

the length of a car

the length of a football field

the length of a bike

For each amount shown, circle the bills and coins you would use to equal the amount. (Hint: Circle the highest-value bills and coins you can use first.)

$35.76

| $10 | $20 | $1 |
| $50 | $5 | $5 |

$87.85

| $10 | $20 | $1 |
| $50 | $5 | $1 |
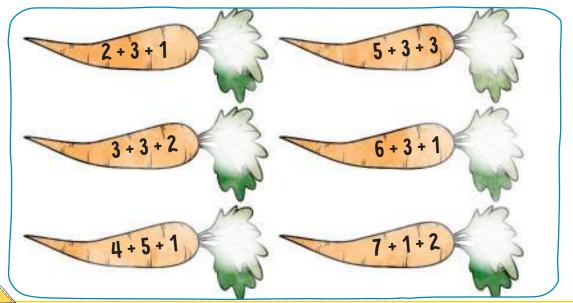
Complete the problems. Write the answers in the carrots' leaves.

2 + 3 + 1

5 + 3 + 3

3 + 3 + 2

6 + 3 + 1

4 + 5 + 1

7 + 1 + 2

Write the correct time in the blue box if you start at 4 PM.

4 PM
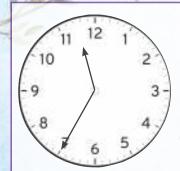
1 HALF HOUR AGO

2 HOURS FROM NOW

1 HOUR AGO

1 HOUR FROM NOW

Your Wonderful Day!

How wonderful each day is depends on your attitude, not what happens or doesn't happen to you. For each clock write the time shown on the clock, including the AM or PM.
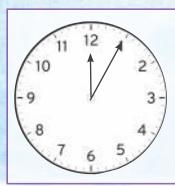
You are sleeping, blessed to be in a warm bed.

_____:_____ _____
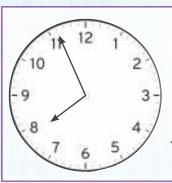
You are weeding the garden—not your favorite job—but you hum along with the birds and have a great time.

_____:_____ _____

You are eating breakfast with a smile on your face, even though your baby brother is being noisy.

_____:_____ _____

You are riding your bike as the sun starts to set. You love the warm breeze on your face and the colorful sky.

_____:_____ _____

You are eating lunch and are sad because your friend just moved to a different state. Your mom comforts you, and you feel hope.

_____:_____ _____

You are saying your prayers before you get in bed for the night. You have so many things to thank God for.

_____:_____ _____

UNIT 3 OVERVIEW

⚭ LESSONS 62-90 ⚭

New Concepts Taught

o   Add 3 two-digit numbers

o   Add and subtract 10 and 100 to numbers in the thousands

o   Compare fractions

o   Compare weights

o   Count and write in the thousands

o   Divide into groups

o   Divide with one left over

o   Missing numbers in addition problems

o   Multiplication

o   Multiplication story problems

o   Place value to the thousands

o   Polygons

o   Regroup in subtraction

o   Rounding in addition and subtraction

o   Two-step story problems

o   Venn diagrams

o   Weight in grams and kilograms

o   Weight in ounces, pounds, and tons

Parent/Teacher Tips
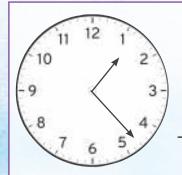
o   If the child wants more math after finishing a lesson, that is a cue that the child can be progressing faster. Consider doing another half or full lesson each day until it feels like too much.

o   If the child is overwhelmed with lessons, try to determine the cause so you can work on fixing it. Here are some questions to ask yourself:

Can the child do basic addition and subtraction quickly? (If not, consider pausing the course and working on those skills for a while.)

Is the child not understanding a lot of the principles? (If so, consider moving back a level or slowing down.) Or is the problem the lesson length? (If so, consider moving to half a lesson a day for a while.)

Some children in Math 2 have not learned to form numbers correctly and are frustrated when they have to do a lot of writing. Does the child seem less overwhelmed if he or she says the answers aloud and you write them? (If so, consider pausing the course to work on writing numbers. Consider a fun challenge like making a reward chart for writing each number correctly 100 times.)

I'll guide you through one more problem on the left before we play a game.

First, look at the ones column. Can you subtract 2 from 0? No, so you need to borrow from the tens column.

Point to the 9 in the tens column. Imagine this is 9 ten sticks. You need to borrow one, so cross out the 9 and write an 8.

Next, take the 10 you borrowed and write a 1 in front of the 0 in the ones column for a total of 10 ones.

Now you can finish the problem.

$$\begin{array}{r} 90 \\ -\ 62 \\ \hline \end{array}$$

Forest
Path of Problems

○ **Read to the child:** Make your way to the cabin by starting on either problem that has "Start" by it. Complete the problem, and then follow along the path, going vertically or horizontally, any way you want to reach the cabin, completing each problem as you go.

$$\begin{array}{r} 52 \\ -\ 23 \\ \hline \end{array} \quad \begin{array}{r} 36 \\ -\ 14 \\ \hline \end{array} \quad \begin{array}{r} 43 \\ -\ 35 \\ \hline \end{array} \quad \begin{array}{r} 28 \\ -\ 17 \\ \hline \end{array} \quad \begin{array}{r} 33 \\ -\ 27 \\ \hline \end{array} \quad \begin{array}{r} 72 \\ -\ 63 \\ \hline \end{array} \quad \begin{array}{r} 84 \\ -\ 67 \\ \hline \end{array}$$

Start

$$\begin{array}{r} 90 \\ -\ 51 \\ \hline \end{array} \quad \begin{array}{r} 99 \\ -\ 48 \\ \hline \end{array} \quad \begin{array}{r} 72 \\ -\ 24 \\ \hline \end{array} \quad \begin{array}{r} 29 \\ -\ 18 \\ \hline \end{array}$$

$$\begin{array}{r} 83 \\ -\ 67 \\ \hline \end{array} \quad \begin{array}{r} 60 \\ -\ 46 \\ \hline \end{array} \quad \begin{array}{r} 34 \\ -\ 13 \\ \hline \end{array} \quad \begin{array}{r} 72 \\ -\ 54 \\ \hline \end{array} \quad \begin{array}{r} 37 \\ -\ 25 \\ \hline \end{array} \quad \begin{array}{r} 54 \\ -\ 48 \\ \hline \end{array}$$

End

Start

$$\begin{array}{r} 65 \\ -\ 32 \\ \hline \end{array} \quad \begin{array}{r} 84 \\ -\ 55 \\ \hline \end{array} \quad \begin{array}{r} 48 \\ -\ 36 \\ \hline \end{array} \quad \begin{array}{r} 63 \\ -\ 28 \\ \hline \end{array} \quad \begin{array}{r} 68 \\ -\ 43 \\ \hline \end{array} \quad \begin{array}{r} 67 \\ -\ 22 \\ \hline \end{array} \quad \begin{array}{r} 85 \\ -\ 63 \\ \hline \end{array}$$

Complete the crossword puzzle. Use number words for the answers with numbers.

Across:
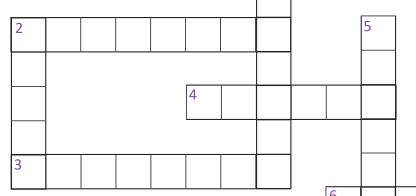1. The answer to an addition problem. Ends with "m."
2. 7 + 6
3. The number after 17
4. The double of 6
6. 11 - 10

Down:
1. 9 + 8
2. 8 - 5
5. 10 + 1

Fill in the missing numbers, counting by thousands.

| 1,000 | | 3,000 |
| 4,000 | | 6,000 |

Complete the problems.

Hundreds Tens Ones

$$\begin{array}{r} 4\ 4\ 7 \\ +\ 3\ 6\ 4 \\ \hline \end{array}$$

Hundreds Tens Ones

$$\begin{array}{r} 4\ 7\ 3 \\ +\ 3\ 8\ 7 \\ \hline \end{array}$$
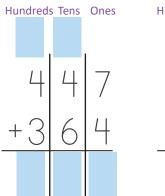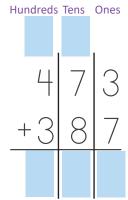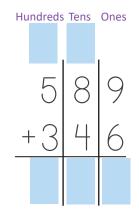
Hundreds Tens Ones

$$\begin{array}{r} 5\ 8\ 9 \\ +\ 3\ 4\ 6 \\ \hline \end{array}$$

Write one of your parents' phone numbers.

Draw a line between the coins in each group to divide the total value in half.

Lesson 64

PLACE VALUE TO THE THOUSANDS

Skip Counting

Have the child skip count backward by 3s from 21 to 3.

Fractions

Play the "Fraction Dice Game." (Instructions are on page 145.)

Fraction Dice Game

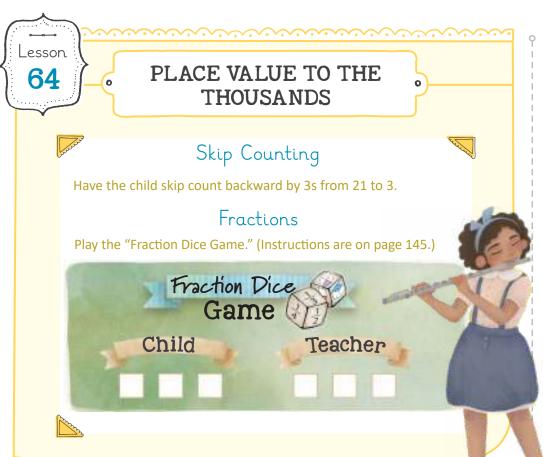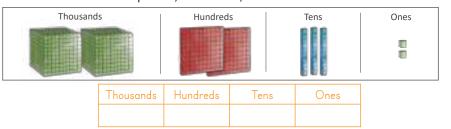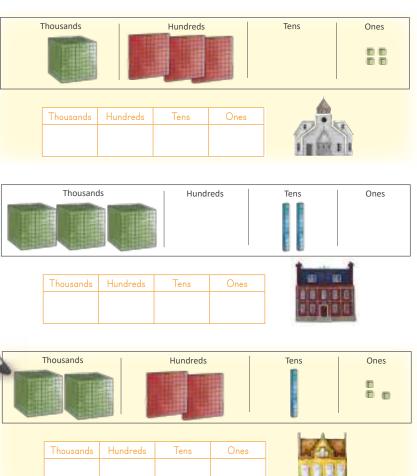| Child	Teacher
☐ ☐ ☐	☐ ☐ ☐

○ **Read to the child:** Madison has been playing the flute since she was eight years old. She plays in an orchestra, and they went on tour. At the first performance on their tour, there were 2,232 people in the audience. The chart below shows 2,232 with base-10 blocks. The green cubes are thousand cubes. They each have 10 hundred squares, which is 1,000 total blocks. In the orange chart, write the number of thousand cubes in the thousands place and write a comma after the digit. Then write the number of hundred squares, ten sticks, and one blocks shown.

Thousands	Hundreds	Tens	Ones

○ **Read to the child:** Madison played at three other churches and concert halls on her tour. Fill out the orange chart by each location to find out how many people were in the audience at each location. Then read the number aloud. Don't forget the comma after the digit in the thousands place.

Thousands	Hundreds	Tens	Ones

Thousands	Hundreds	Tens	Ones

Thousands	Hundreds	Tens	Ones

○ **Read to the child:** Read each number in green aloud. What digit is in the thousands place? Hundreds place? Ones place? Tens place?

9,802   8,003   7,300   4,020

Take the wooden squares 1–8 from the math box and put them in a bowl. Read to the child: We are going to play a game. We will each randomly take four numbers out of the bowl and arrange them to make the greatest number possible. We will each write the number we create in the first box in our column below. Then we will follow the instructions to write in the yellow box the number that is 100 more or less or 10 more or less than the number we created. The person with the larger number in the yellow box wins that round and gets to fill in the circle. We'll then put all the numbers back in the bowl and repeat the steps. The person with the most circles filled in at the end of the game wins. This is a game of chance, and it is not important who wins; it's just important to have fun!

Who Has the Larger Number?

Game

Child

Create Your Number		10 more	
Create Your Number		10 less	
Create Your Number		100 more	
Create Your Number		100 more	
Create Your Number		100 less	

Parent/Teacher

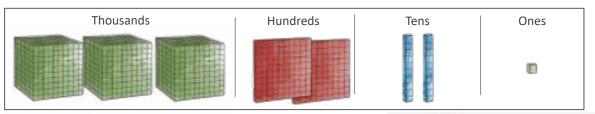| Create Your Number | | 10 more | |
Create Your Number		10 less	
Create Your Number		100 more	
Create Your Number		100 more	
Create Your Number		100 less	

Jamar Goes on

Tour!

Jamar loves to sing and is in a touring choir. Fill out the orange charts by each location to find out how many people were in the audience at each location. Then read the number aloud. Don't forget the comma after the digit in the thousands place.
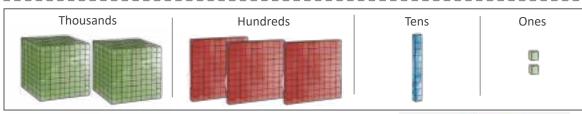
Thousands	Hundreds	Tens	Ones

Thousands	Hundreds	Tens	Ones

Thousands	Hundreds	Tens	Ones

UNIT 4 OVERVIEW

⧼ LESSONS 91-120 ⧽

Extra Supplies Needed

- ruler
- scissors
- plain or grid paper
- banana bread in-gredients (optional for Lesson 118)

New Concepts Taught

- Add and subtract measurements
- Bar graphs
- Compare and order measurements
- Congruency
- Construct geometric shapes
- Coordinate graphs
- Equivalent fractions
- Geometric transformations
- Lines, angles, and triangles
- Make change with money
- Median
- Mixed numbers
- Parts of a set
- Perimeter and area
- Pictographs
- Plot and interpret data
- Quadrilaterals
- Symmetry
- Tables
- Three-dimensional shapes
- Volume with tablespoons, teaspoons, and half teaspoons

Parent/Teacher Tips

- The concept of multiplication is introduced in Math 2. Multiplication fact memorization is introduced in Math 3. However, many children in Math 2 like using Musical Multiplication (available on goodandbeautiful.com) to start memorizing multiplication facts.

- Now that you have done so many lessons, consider changing things up by letting the child use erasable colored pens or by having the child choose a sticker to put on each completed lesson.

- If the child can still use help increasing speed with basic addition facts, consider playing a game before or after each lesson. Have the child roll two 10-sided dice and add them together, saying the sum aloud. Then you do the same. The person who rolls the larger sum gets a tally mark for getting the larger score. Play as quickly as you can for 5 to 7 minutes.

Painting Credits for Page 267
1. "The Herding Girl's Resting Time" by Alfred Wahlberg (1834–1906), c. 1875–1878
2. "Girl with Two Rabbits" by Felix Schlesinger (1833–1910), date unknown
3. "Bavarian Landscape" by Albert Bierstadt (1830–1902), date unknown
4. "Girl from Tangier" by Josep Tapiró Baró (1836–1913), c. 1900–1910
5. "Horses Balking at Approaching Storm" by Rudolf Koller (1828–1905), 1849
6. Adobe Stock Image
7. "Lunch" by Friedrich Proelss (1855–1934), 1900
8. "Deer in Sunny Forest Clearing" by Franz Xaver von Pausinger (1839–1915), 1880
9. "Puppies' Breakfast" by Walter Hunt (1861–1941), August 1885
10. "Ducks at the Pond" by Carl Jutz (1838–1916), 1899
11. "Happy Summer Day at Marxzell" by Hans Thoma (1839–1924), 1915
12. "View of the Untersberg in Berchtesgadener Land" by Heinrich Brandes (1803–1868), date unknown
13. "The Little Knitters" by Albert Anker (1831–1910), c. 1850–1900
14. "Autumn at Lake Starnberg" by Karl Adam Heinisch (1847–1923), date unknown