WEEK-BYAVEEK DAILYSCHEDULE

Below is a suggested weekly schedule to help you stay on track. It uses a four-day week to leave room for a co-op day or a review day. Please feel free to adjust it to the needs of your child and your family's calendar. Since the suggested schedule covers 28 weeks, there is plenty of room for personal modifications.

| WEEK | DAY I | DAY 2 | DAY 3 | DAY 4 |
|------|--|--|--|--|
| | UNIT I | CHAPTER I | CHAPTER I | CHAPTER I Lesson 4 |
| | CHAPTER I Lesson 1 | Skills practice: doubles facts | Skills practice: doubles facts | Skills practice: doubles facts |
| | Skills practice: doubles facts | | | |
| 2 | CHAPTER I | CHAPTER I | CHAPTER I | CHAPTER I |
| | Skills practice: doubles plus or minus one |
| 3 | CHAPTER I Lesson 9 | CHAPTER 2 Lesson 10 | CHAPTER 2 | CHAPTER 2 Lesson 12 |
| | Skills practice: addition and subtraction facts within 10 | Skills practice: addition and subtraction facts within 10 | Skills practice: addition and subtraction facts within 10 | Skills practice: addition and subtraction facts within 10 |
| | | | | |

TEACHER'S NOTES UNIT I: NUMBER SENSE AND PLACE VALUE

SUPPLY LIST Skills Practice:

- → Flashcards
- → LEGO® bricks
- ➔ Dominoes
- → Dice

Chapter 1:

- → Timer
- → Colored pencils
- → Tape or glue
- → Scissors
- → Base ten blocks

→ Linking cubes

Chapter 2:

- → Fifty small objects (such as pennies, beans, etc.)
- → Three dice
- → Base ten blocks
- → A bag of beans (or about 200 other small objects)
- → Ruler or tape measure

Unit one focuses on number sense and takes students to a deeper level of understanding than what they covered in first grade. There is a good amount of play in this unit; they will be trying out different things with numbers and experimenting with what happens. This kind of exploration leads to a strong foundation in mathematics.

The text was written assuming you will be sitting alongside of your child to help them. Different kids will demonstrate different levels of independence, but a second grader is not expected to read and complete the student book on his or her own.

There are additional resources for this program on the Book Extras Website. For login information and the password turn to page 10 in the student book.

SKILLS PRACTICE FOR UNIT ONE: FACTS FROM FIRST GRADE

All of the facts in the unit one skills practice are a review from first grade. We want to sharpen these skills before unit two when students will be relying on rapid recall of these basic facts, so they can complete two-digit addition and subtraction problems. For many of these, a few minutes with flashcards is going to be your best option.

Skill One: Doubles facts

This group of facts is often easier to master because of the symmetry. Something about doubles facts is just appealing. Use them as a benchmark for learning other facts.

| 1 + 1 = 2 | 4 + 4 = 8 | 7 + 7 = 14 | 10 + 10 = 20 |
|-----------|------------|------------|--------------|
| 2 + 2 = 4 | 5 + 5 = 10 | 8 + 8 = 16 | |
| 3 + 3 = 6 | 6 + 6 = 12 | 9 + 9 = 18 | |

- 1. Flashcards. Pull out just the doubles facts and rehearse them.
- 2. Domino fact practice. Select only the dominoes that have the same amount of dots on both sides. Write down the numbers 0, 2, 4, 6, 8, 10, 12 on a sheet of paper. Have your child match each domino with the correct sum. If your set of dominoes goes above 12 you can include those sums as well.

Skill Two: Doubles plus or minus one

Using the doubles facts as a reference, we will now practice the facts that are one more or one less. Here are the facts you need to practice:

| 0 + 1 = 1 | 5 + 6 = 11 | 1 + 0 = 1 | 6 + 5 = 11 |
|-----------|-------------|-----------|-------------|
| 1 + 2 = 3 | 6 + 7 = 13 | 2 + 1 = 3 | 7 + 6 = 13 |
| 2 + 3 = 5 | 7 + 8 = 15 | 3 + 2 = 5 | 8 + 7 = 15 |
| 3 + 4 =7 | 8 + 9 = 17 | 4 + 3 = 7 | 9 + 8 = 17 |
| 4 + 5 = 9 | 9 + 10 = 19 | 5 + 4 = 9 | 10 + 9 = 19 |

- 1. Flashcards. Add the facts on the bottom of page 14 in with the doubles and continue to practice.
- 2. Play the Doubles Plus or Minus One game in lesson 24. You can print an extra copy of the game board off of the Book Extras website.

Skill Three: Addition and subtraction facts within 10

Many of these addition facts were already covered but now we are adding in subtraction facts too. This is a gentle review. We will be tackling all the facts within 20 in unit two. Be sure that students are practicing them backwards and forwards and in a horizontal and a vertical format.

Addition facts

| 1 + 3 = 4 | 1 + 7 = 8 | 2 + 5 = 7 | 3 + 5 = 8 |
|-----------|------------|------------|------------|
| 1 + 4 = 5 | 1 + 8 = 9 | 2 + 6 = 8 | 3 + 6 = 9 |
| 1 + 5 = 6 | 1 + 9 = 10 | 2 + 7 = 9 | 3 + 7 = 10 |
| 1 + 6 = 7 | 2 + 4 = 6 | 2 + 8 = 10 | 4 + 6 = 10 |

Subtraction facts

| 10 - 10 = 0 | 9 – 4 = 5 | 7 - 5 = 2 | 5 - 2 = 3 |
|-------------|-----------|-----------|-----------|
| 10 - 9 = 1 | 9 – 3 = 6 | 7 - 4 = 3 | 5 - 1 = 4 |
| 10 - 8 = 2 | 9 - 2 = 7 | 7 - 3 = 4 | 5 - 0 = 5 |
| 10 - 7 = 3 | 9 – 1 = 8 | 7 - 2 = 5 | 4 - 4 = 0 |
| 10 - 6 = 4 | 9 - 0 = 9 | 7 – 1 = 6 | 4 - 3 = 1 |
| 10 – 5 = 5 | 8 - 8 = 0 | 7 - 0 = 7 | 4 - 2 = 2 |
| 10 - 4 = 6 | 8 – 7 = 1 | 6 - 6 = 0 | 4 - 1 = 3 |
| 10 - 3 = 7 | 8 – 6 = 2 | 6 – 5 = 1 | 4 - 0 = 4 |
| 10 - 2 = 8 | 8 – 5 = 3 | 6 – 4 = 2 | 3 - 3 = 0 |
| 10 - 1 = 9 | 8 – 4 = 4 | 6 – 3 = 3 | 3 - 2 = 1 |
| 10 - 0 = 10 | 8 – 3 = 5 | 6 - 2 = 4 | 3 - 1 = 2 |
| 9 - 9 = 0 | 8 – 2 = 6 | 6 – 1 = 5 | 3 - 0 = 3 |
| 9 - 8 = 1 | 8 – 1 = 7 | 6 - 0 = 6 | 2 - 2 = 0 |
| 9 - 7 = 2 | 8 - 0 = 8 | 5 - 5 = 0 | 2 - 1 = 1 |
| 9 - 6 = 3 | 7 - 7 = 0 | 5 - 4 = 1 | 2 - 0 = 2 |
| 9 – 5 = 4 | 7 - 6 = 1 | 5 - 3 = 2 | 1 - 1 = 0 |

- 1. Flashcards. Include all addition and subtraction facts within 10.
- 2. Play Toppling Towers of 10 to practice subtraction. The instructions for this activity are included below.
- 3. Practice grouping facts according to their answers. Label several sheets of paper with the numbers 0–10. Have your child stack the flashcards on top of the paper with the correct answer. They can use both addition and subtraction facts in this practice. You can also do this with dominoes to practice just addition.



Skill Four: Identifying even and odd numbers

These are introduced at the end of chapter 1, but it is worth circling back for some spaced repetition while your child is working through the lessons in chapter 2.

- 1. Practice with groups of objects. Place a group of beans on the table and ask students to determine if it is an even or odd amount. Repeat with a variety of amounts. Talk with them about how they arrived at their answer (or why they got stuck). Most kids will figure it out by making pairs and seeing if there are any left over.
- Give your child a set of numbered cards. You can purchase these or make them yourself. Have your child sort them into 2 piles: even and odd. Start with just the numbers 1–20 and work up to include numbers up to 100 so that your child masters the concept of looking at just the final digit.
- 3. Check out your library to see if it has any math books like *Even Steven, Odd Todd* by Kathryn Cristaldi.

CHAPTER 1: NUMBER SENSE AND PLACE VALUE

LESSON 1

In the opening activity, students draw as many stars as they can in a minute and then count them up. Some students might just count up the stars one by one. Others might group them by fives or tens. Talk with your child about different strategies and their advantages. The discussion is more important than the specific strategy. We want to develop mathematicians who are comfortable using a variety of strategies and who know how to choose the best one for a certain problem. That flexibility and level of expertise are developed at the elementary level through exposure to many different approaches to the same task and discussion about these different approaches.

Place value is one of the key concepts in second grade, so it is important that students develop a firm grasp of what place value is and how it functions in our numbering system. The patterns in the hundreds chart help them discover these relationships. And of course, there are always more patterns to be found if they want to keep looking.

The challenge uses the vocabulary word "digit" so that students can explore something more in depth on the chart. This vocabulary word will be further explained and defined in lesson 2.

Take it Further: Color all the numbers that have the same digits purple. What pattern do you notice?

Page 17 Answers



LESSON 2

The opening activity helps them make a neat connection between their base ten blocks and the hundreds chart. The challenge at the end of this lesson introduces an element of play. Any time you catch your kids playing with math manipulatives encourage them to continue. Kids often discover relationships between numbers while casually exploring.

Page 18 Answers



Page 20 Answers



Page 21 Answers



LESSON 3

In the opening activity, we have you think of the secret number. With some practice, your child will be able to discover the secret number. But for now, we didn't want the game to be too hard for them. Also, don't be discouraged if their guesses are illogical. Play the game several times and see if they start to realize how they can guess more efficiently.

Expanded form develops the important concepts behind place value that are especially important when we start adding and subtracting in unit two.

Page 23 Answers



Page 24 Answers

| LESSON 3 | EXPANDED FORM | | 0 | | |
|------------------------------------|---------------------|-----------------|---|--|--|
| Number | Expanded Form | Base ten blocks | | | |
| 45 | 40 + 5 | | | | |
| 66 | 60 + 6 | | | | |
| 92 | 90 + 2 | | | | |
| Circle the value of the red digit. | | | | | |
| 32 2 2 | 0 29 2 20 | 34 3 30 | | | |
| 5 | o 72 2 20 | 83 8 80 | | | |
| 24 | | | | | |



LESSON 4

Keep the matching cards from the opening activity in an envelope if your child needs more practice in the future.

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LESSON 4: NUMBER MATCHING CARDS ANSWERS



, LESSON 5

Getting the direction of the inequality correct is harder for most students than deciding which number is greater. If they make a mistake on the practice ask them to point to the greater number for you. If they get that right then you know they are just struggling with the inequality sign. Learning to write notation and symbols correctly is a key skill in mathematics. Your child is essentially learning to write in a new language, the language of mathematics.

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Page 31 Answers





LESSON 6

Did you lose a few of those unit cubes? The same thing happens at our house. You could also use some other small objects and substitute them for the cubes as long as your child understands that each item represents one. Even if you have a complete set, you won't have enough unit cubes to make all 5 representations at the same time, that's why we have them sketch a picture of each representation.

If your child struggles with putting the numbers in order try writing each number on a slip of paper. Many kids have an easier time if they can physically move the numbers around and correct a mistake without having to erase.

Page 32 Answers



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Page 33 Answers



Page 34 Answers





LESSON 7

Students need a good amount of practice with the concepts of even and odd so that it can really sink in. The next three lessons develop this concept. Whenever possible, talk about even and odd amounts throughout the day. Pairs of shoes and socks are one my favorite examples. We normally are missing a sock in the laundry so that works out well for the odd number. Markers and their caps can also work well as an example.

Page 35 Answers



Page 36 Answers

| Number of children | Does everyone have a partner? | Draw a picture of what happened when you made the pairs. |
|-----------------------|----------------------------------|--|
| 4 | yes | |
| 5 | no | 880 |
| 6 | yes | 888 |
| 7 | no | |
| 8 | yes | 8888 |
| 9 | no | 88880 |
| 10 | yes | 88888 |

Page 38 Answers



LESSON 8

This lesson develops the idea of evens and odds in a new way. We want students to see that all even numbers can be broken down into a doubles fact and all odds are a doubles fact plus one more.

Page 39 Answers



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Page 40 Answers

| | EVEN AND ODD PRACTI | ICE | |
|---------------------------------|--|---|--|
| Even | and Odd Practice | | |
| The numb at the num of 6. | ers that you used to build 2 towers of iber 12, for instance. Twelve is an ev | of the same height are all even numbers. Look ven number. It can be split into 2 equal groups | |
| | | 6 + 6 = 12 | |
| If you star towers that | ed with an odd number of linking o t were the same height. One tower v | cubes - like 9, 11, or 5 - you couldn't build 2 would always be one cube higher. | |
| | Practice | | |
| | Each of the numbers | below is even. Write a number | |
| | sentence showing ho equal groups. If you build two towers like | w the number can be split into two need help, use your linking cubes and you did in the opening activity. | |
| | | | |
| 4 | 2 + 2 = 4 | | |
| 4 | 2 + 2 = 4 3 + 3 = 6 | 14 - 7 + 7 = 14 $18 - 9 + 9 = 18$ | |
| 4 6 10 | 2 + 2 = 4 3 + 3 = 6 5 + 5 = 10 | 14 7 + 7 = 14 $18 9 + 9 = 18$ $20 10 + 10 = 20$ | |
| 4 | 2 + 2 = 4 3 + 3 = 6 5 + 5 = 10 | 14 7 + 7 = 14 $18 9 + 9 = 18$ $20 10 + 10 = 20$ | |

| Odd alwa the | EVEN AND ODD PRACTICE LESSO I numbers cannot be split into two equal groups. There will sys he one left over. Look at these number sentences where outcomes are odd numbers. | DN 8 |
|--------------------|--|------|
| | $7 \longrightarrow 3 + 3 + 1 = 7$ $1 \longmapsto 5 + 5 + 1 = 11$ | |
| | Solution Practice Write number sentences for each of these odd numbers. If you need help, use your linking cubes and build two towers like you did in the opening activity. You will have one cube leftower. 5 2 + 2 + 1 = 5 | |
| | 9 4 + 4 + 1 = 9 | |
| | 13 0 + 0 + 1 = 13 $17 8 + 8 + 1 = 17$ | |
| | | 41 |

LESSON 9

Spend some time reviewing the chart on p. 42. It pulls together all the different ideas behind evens and odds that we have covered.

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Page 44 Answers



Page 45 Answers

| | MORE | EVEN AND ODD PRACTICE | LESSON 9 |
|------------|---|---------------------------------------|----------|
| P T P | Practice Look at the ten fran even or an odd nu | nes. Circle whether they she mber. | ow an |
| even | odd | even | odd |
| | | | |
| even | odd | even | odd |
| Give 3 exa | nples of two-digit eve Answers | n numbers. 5 will vary. | |
| | | | 45 |

Page 46 Answers

