## dally SCHEDULE

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 $\square$ <br> Intro <br> CHAPTER I <br> Lesson 1 <br> Skills practice: <br> doubles facts | CHAPTER I <br> Lesson 2 <br> Skills practice: <br> doubles facts | CHAPTER I <br> Lesson 3 <br> Skills practice: <br> doubles facts | CHAPTER I <br> Lesson 4 <br> Skills practice: <br> doubles facts |
| $2$ | CHAPTER I <br> Lesson 5 <br> Skills practice: doubles plus or minus one | CHAPTER I <br> Lesson 6 <br> Skills practice: doubles plus or minus one | CHAPTER I <br> Lesson 7 <br> Skills practice: doubles plus or minus one | CHAPTER I <br> Lesson 8 <br> Skills practice: doubles plus or minus one |
| $3$ | CHAPTER I <br> Lesson 9 <br> Skills practice: <br> addition and <br> subtraction <br> facts within 10 | CHAPTER 2 <br> Lesson 10 <br> Skills practice: <br> addition and <br> subtraction <br> facts within 10 | CHAPTER 2 <br> Lesson 11 <br> Skills practice: <br> addition and <br> subtraction <br> facts within 10 | CHAPTER 2 <br> Lesson 12 <br> Skills practice: <br> addition and subtraction facts within 10 |



## TEACHER'S NOTES

## UNIT I:NUMBER SENSE AND PLACEVALUE

## SUPPLY LIST

Skills Practice:
$\rightarrow$ Flashcards
$\rightarrow$ LEGO® bricks
$\rightarrow$ Dominoes
$\rightarrow$ Dice

## Chapter 1:

$\rightarrow$ Timer
$\rightarrow$ Colored pencils
$\rightarrow$ Tape or glue
$\rightarrow$ Scissors
$\rightarrow$ Base ten blocks
$\rightarrow$ Linking cubes

## Chapter 2:

$\rightarrow$ Fifty small objects (such as pennies, beans, etc.)
$\rightarrow$ Three dice
$\rightarrow$ Base ten blocks
$\rightarrow$ A bag of beans (or about 200 other small objects)
$\rightarrow$ 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

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

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.

## Toppling Towers of 10

## You Will Need:



Ten LEGO bricks (or linking cubes) per playerA die

## You Will Do:

The object of the game is to take down your opponent's tower before he or she takes down yours.

1. Each player starts by building a tower of 10.
2. The first player rolls the die. He or she removes that number of LEGO bricks from another player's tower while saying the subtraction sentence out loud. For example, "Ten minus 3 is 7 ."
3. Players continue taking turns rolling the die and removing that number of LEGO bricks from another player's tower.
4. You must roll the exact amount to take another player's tower all the way down to zero. For instance, if your brother has 3 LEGO bricks left and you roll a 4 , you cannot take away his 3 LEGO bricks. When a player has lost an entire tower, he or she is out.
5. The last player remaining wins.

## 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.
2. 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.

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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

| 4 |  | ов ¢ояп | Lesson 3 |
| :---: | :---: | :---: | :---: |
| (iili) | Practice <br> Practice writing numbers in different forms by completing the table below．You can use lines and dots to draw the base ten blocks． |  |  |
| Number | Espentes romm | Base ene blocts |  |
| 68 | $60+8$ | 瞯聞聞品品 |  |
| 21 | $20+1$ | 110 |  |
| 70 | $70+0$ |  |  |
| 53 | $50+3$ | $1\|\|\|\mid$ 品 |  |
| 78 | $70+8$ | \||||||| 品 |  |
|  |  |  |  |

Page 24 Answers


## 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 3I Answers

|  |  | companing numbrs | Lesson 5 |
| :---: | :---: | :---: | :---: |
| Practice <br> Use the < ond > symbols to compare the numbers below. When you ore deciding which number is greater, remember to look at the eens column first. It may help to to first underline the number in the tens place in each number. |  |  |  |
|  |  |  |  |
| $37>23: 28<39$ |  |  |  |
| $15<76$ |  | 10 < 11 |  |
| 20 < 30 |  | 87 ( 78 |  |
| $99>97$ |  | $15<51$ |  |
| Write numbers in the blanks to make each number sentence true. |  |  |  |
| Answers will vary. |  |  |  |

## 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

Page 32 Answers
 mistake without having to erase.

Page 33 Answers
Putting Numbers in Order
Pane
Oelo
according to their tens digits.
Step Two: If any of the number have the same tens digit, then look at the ones place. Change
the order if you need

## 1171

## Practice

You can use the steps above to put these numbers in order trom least to greatest. Underline each tens digit. If more digit to see which is smaller. Write your answers on the spaces provided.

| $17,19,52,35,42$ |
| :---: |
| $17,19,35,42,52$ |
| $84,92,73,38,71$ |
| $38,71,73,84,92$ |
| $77,80,56,73,19$ |
| $19,56,73,77,80$ |

## $2(2)$

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## 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.

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## 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.

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## 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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