

Story Problems with Stickers

Math Focus Points

- ◆ Developing efficient methods for adding 2-digit numbers
- ◆ Adding tens and ones to combine 2-digit numbers
- ◆ Writing an equation that represents a problem

Vocabulary

tens
ones

Today's Plan		Materials
1 ACTIVITY Revisiting Stickers: Strips and Singles	 10 MIN  CLASS	<ul style="list-style-type: none"> • T38–T39*  • Connecting cubes*
2 ACTIVITY Solving Sticker Problems	 35 MIN  INDIVIDUALS	<ul style="list-style-type: none"> • <i>Student Activity Book</i>, pp. 1–2 • M3*; M5* • Connecting cubes*
3 DISCUSSION Adding Tens and Ones	 15 MIN  CLASS	<ul style="list-style-type: none"> • <i>Student Activity Book</i>, p. 1 • Connecting cubes*
4 SESSION FOLLOW-UP Daily Practice		<ul style="list-style-type: none"> • <i>Student Activity Book</i>, p. 3 • <i>Student Math Handbook</i>, pp. 28, 61, 63–64 • M1–M2*, Family Letter

*See *Materials to Prepare*, p. 23.

Classroom Routines

Today's Number: 38 Using Two Addends Post the following series of expressions on the board and explain that these are different ways that were generated to make 38 with two addends. Ask students to describe and explain the pattern.

$$38 + 0$$

$$37 + 1$$

$$36 + 2$$

$$35 + 3$$

Then, ask students to use this pattern to generate ways to make 29. After they have generated several expressions, ask whether this pattern will work for any number.

ACTIVITY

1

Revisiting Stickers:
Strips and Singles

10 MIN CLASS

Students were introduced to the context of stickers sold in strips of ten and singles in *Stickers, Number Strings, and Story Problems*. They solved problems involving stickers in previous units. Therefore, students should need only a brief review. ① ②

Review the story context as needed, reminding students that Sticker Station sells stickers in strips of ten and individually (singles).

Use the transparencies *Stickers: Strips and Singles* (T38–T39) to pose two or three problems for the class. For example, show four strips of ten and six singles. Students should have access to cubes, organized into towers of ten.

How many stickers are there? How do you know? ③

Show another amount or two, such as 51 or 37, in strips and singles. Ask how many stickers there are altogether and how students figured it out. Focus on counting by 10s. For example, ask students to demonstrate how *they* counted by 10s; model counting by 10s as *you* demonstrate a student's strategy; and occasionally, ask other students, or the whole class, to count by 10s to model a student's strategy.

[Alberto] put all the strips together and counted them by 10s. Then he counted the singles. Let's try that together.

Finally, do one or two problems that ask students to work in the opposite direction. Write a number on the board and ask students to use cubes to show the amount as strips and singles.

ACTIVITY

2

Solving Sticker Problems



35 MIN INDIVIDUALS

Introduce sticker problems by reading Problem 1 on *Student Activity Book* page 1 aloud.

Sally went to the Sticker Station. She bought 2 strips of ten star stickers and 6 single star stickers. She also bought 2 strips of ten moon stickers and 3 single moon stickers. How many stickers did Sally buy?

Professional Development

- 1 **Teacher Note:** Place Value in Grade 2, p. 156
- 2 **Teacher Note:** Stickers: A Context for Place Value, p. 158

Differentiation

- 3 **English Language Learners** As students work on the problems, check for comprehension. Provide suggestions when necessary. During the process, give English Language Learners a chance to practice answering questions individually before they are presented during class discussion. If necessary, help them phrase their responses by writing sentence stems and/or words on the board.

Name _____ Date _____

How Many Tens? How Many Ones?

Stickers: Strips and Singles
Cut apart into strips and singles.

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Sessions 1.1, 1.3, 1.4 Unit 6 M3

▲ Resource Masters, M3; T38–T39

Name _____ Date _____

How Many Tens? How Many Ones?

Sticker Problems (page 1 of 2)

Solve each problem. Show your work and write an equation.

1. Sally went to Sticker Station. She bought 2 strips of ten star stickers and 6 single star stickers. She also bought 2 strips of ten moon stickers and 3 single moon stickers. How many stickers did Sally buy?

2. Franco had 25 dragon stickers. He went to Sticker Station and bought 2 more strips of ten dragon stickers. How many stickers does Franco have now?





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Sessions 1.1, 1.2

Unit 6 1

▲ Student Activity Book, p. 1



Name _____ Date _____

How Many Tens? How Many Ones?

Sticker Problems (page 2 of 2)

3. Jake bought some stickers at Sticker Station. He bought 4 strips of ten sun stickers and 3 single sun stickers. He also bought 2 strips of ten moon stickers and 5 single moon stickers. How many stickers did Jake buy?

4. Kira had 30 puppy stickers. She went to Sticker Station and bought one more strip of ten puppy stickers and 5 single puppy stickers. How many stickers does Kira have now?





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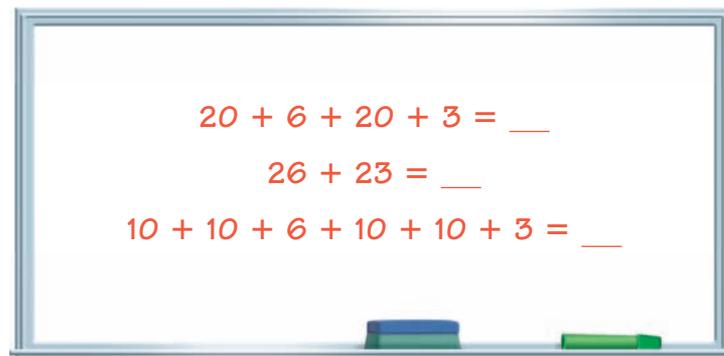
Sessions 1.1, 1.2

Unit 6 2

▲ Student Activity Book, p. 2



Ask a volunteer or two to retell the story. Ask students to help you write an equation that represents what the problem is asking. It is likely that they will suggest two or three different equations. Record them on the board or on chart paper, and talk through how each represents the problem.



Explain that, for each problem on *Student Activity Book* pages 1–2, students are to write an equation that represents the problem, solve it, and show how they solved it. Encourage students to think about how to use numbers and equations to record their thinking.

When all students have finished Problem 1, call them together to have the discussion described on pages 27–29. Then, have students continue solving the problems on *Student Activity Book* pages 1–2.

ONGOING ASSESSMENT: Observing Students at Work



Students solve problems that encourage seeing 2-digit numbers as 10s and 1s.

- **Can students write equations that accurately represent the problems (e.g., “ $26 + 23 =$ ” or “ $20 + 6 + 20 + 3 =$ ”)?**
- **What tools do students use to solve the problems (e.g., cubes, strips and singles, the 100 chart, the number line)?**
- **Can students solve the problems accurately?** What strategies do they use? Do they add by place, first combining the strips (10s), then the singles (1s), and then the two subtotals? Do they keep one number whole (e.g., $26 + 10 + 10 + 3$)? Do their strategies depend on the problem?
- **How do students record their work?**

Watch for students who add **tens** and **ones** to solve Problem 1 and who keep one number whole to solve Problem 2. Discuss their work at the end of this session and at the beginning of Session 1.2.

DIFFERENTIATION: Supporting the Range of Learners



Intervention Ask students who are having difficulty to retell the story in their own words. Have them represent the situation with number cubes or strips and singles. Some students may lose track of the values in the problems; for example, thinking of two strips as 2 rather than 20. **3**

3 DISCUSSION Adding Tens and Ones



Math Focus Points for Discussion

- ◆ Adding tens and ones to combine 2-digit numbers

After students have finished Problem 1, call them together to discuss it. **4**

1. Sally went to Sticker Station. She bought 2 strips of ten star stickers and 6 single star stickers. She also bought 2 strips of ten moon stickers and 3 single moon stickers. How many stickers did Sally buy?

26 + 23 = 49

Sample Student Work

1. Sally went to Sticker Station. She bought 2 strips of ten star stickers and 6 single star stickers. She also bought 2 strips of ten moon stickers and 3 single moon stickers. How many stickers did Sally buy?

$26 + 23 = 49$

$10 + 10 + 10 + 10 + 6 + 3 = 49$

Sample Student Work

Professional Development

- 3** Dialogue Box: Is it a 2 or a 20?, p. 174
- 4** Dialogue Box: Adding with Stickers, p. 172

Name _____ Date _____

How Many Tens? How Many Ones?

100 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
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Sessions 1,2,13,14,21,23,25,26,31,32,33,34,35,36,41,42,43 Unit 6 M5

▲ Resource Masters, M5; T52

1. Sally went to Sticker Station. She bought 2 strips of ten star stickers and 6 single star stickers. She also bought 2 strips of ten moon stickers and 3 single moon stickers. How many stickers did Sally buy?

$26 + 23$

Two vertical lines on the left represent 20, followed by six small circles representing 6. To the right, two vertical lines represent 20, followed by three small circles representing 3.

$40 + 9 = 49$

I did 20 plus 20 equals 40 and I took the 6 and the 3 and I add it and that equals 9 so I 40 plus 9 equals 49.

Sample Student Work

1. Sally went to Sticker Station. She bought 2 strips of ten star stickers and 6 single star stickers. She also bought 2 strips of ten moon stickers and 3 single moon stickers. How many stickers did Sally buy?

$20 + 20 = 40$

$6 + 3 = 9$

$20 + 23 = 49$

Sample Student Work

Read the problem aloud and refer students to the board or chart paper with the equations they generated to represent this problem.

2 strips and 6 singles + 2 strips and 3 singles

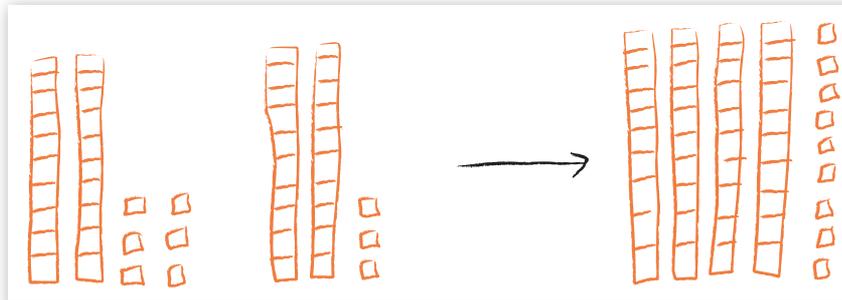
$20 + 6 + 20 + 3 = \underline{\quad}$

$26 + 23 = \underline{\quad}$

$10 + 10 + 6 + 10 + 10 + 3 = \underline{\quad}$

Because of the context, many students may add by place to solve this problem, combining the tens ($20 + 20$) and the ones ($6 + 3$) and then adding $40 + 9$. Ask students who used this strategy to share. 5

As you discuss students' strategies, ask them to model their methods with cubes or strips and singles. 6



If any students used shorthand methods for recording, such as drawing lines and dots or squares to represent strips and singles, ask them to share as well. You can also model such shorthand as you record students' strategies.

Students might say:



"I added the 4 tens together, $20 + 20 = 40$.
Then I added all the singles together, $6 + 3 = 9$.
Then I added $40 + 9 = 49$."

Does everyone see how [Susan] used place value to solve the problem? She put all the tens together and then all the singles together. She added all the tens plus all the singles to find the total, which is 49.

4 SESSION FOLLOW-UP Daily Practice



Daily Practice: For ongoing review, have students complete *Student Activity Book* page 3.



Student Math Handbook: Students and families may use *Student Math Handbook* pages 28, 61, 63–64 for reference and review. See pages 189–199 in the back of this unit.



Family Letter: Send home copies of the Family Letter (M1–M2).

Algebra Note

5 **Does the Order Matter?** Some students use strategies that involve rearranging the order of multiple adds (e.g., $20 + 6 + 20 + 3 = 20 + 20 + 6 + 3$). Remind students that they have explored this strategy before in *Stickers*, *Number Strings*, and *Story Problems*. Have them illustrate with stickers why this works.

Math Note

6 **Strategies Other Than Using Tens and Ones**
A few students may use other strategies, such as keeping one number whole and adding on the other or thinking of $26 + 23$ as $25 + 24$ or 1 less than $25 + 25$. You may give them time to share at the end of this discussion, but note that Session 1.2 will begin with a discussion involving Problem 2 and the use of the strategy of keeping one number whole and adding on the other in parts.

Name _____ Date _____

How Many Tens? How Many Ones? Daily Practice

Telling Time Problems

Read each clock. Record what time it is. Also record what time it will be in two hours. Write each time three ways.

NOTE Students practice telling and determining time to the hour and the half hour.

Unit 6 134, 137–138

What time is it now?	What time will it be in two hours?
 <input type="text" value=":"/> eight o'clock	 <input type="text" value=":"/> _____
 <input type="text" value=":"/> five thirty	 <input type="text" value=":"/> _____
 <input type="text" value="2:30"/> two thirty	 <input type="text" value=":"/> _____
 <input type="text" value=":"/> _____	 <input type="text" value=":"/> _____
 <input type="text" value="10:00"/> _____	 <input type="text" value=":"/> _____

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▲ **Student Activity Book, p. 3**