

Student Guide

Close Enough! (SG pp. 133–134)
Questions 1–7

- 1.* Yes. Possible response: Add the hundreds:
 $200 + 300 + 400 = 900$. Then estimate the
 tens: 47 plus 57 plus 22 is more than 100.
 $900 + 100 = 1000$

Close Enough!

That Is Close Enough

Three schools are getting together for a sports day at Bessie Coleman School. There are 247 students from Bessie Coleman School, 457 from Clark School, and 322 from Lincoln School. Sam, a third grader at Bessie Coleman School, says he thinks there are about 1050 students at the sports day.

Bessie Coleman School
247

Clark School
457


Lincoln School
322

1. Do you think Sam's estimate is reasonable? Show or tell how you decided.

Carla, Levi, and Sara each thought about Sam's estimate. They each used an estimation strategy to see if it was reasonable.

Carla said, "I added the hundreds first."


200 plus 400 plus 300 is 900.
47 plus 57 plus 22 is more than 100.
1050 seems reasonable.



Carla


Levi said, "I thought of it a different way."

247 is close to 250. 457 is close to 460.
460 plus 250 is, ummm, 600. + 700. + 710.
710 plus the 322 from Lincoln is about 1030.
Sam's 1050 is close enough!



Levi

Sara said, "It is easier for me to round to hundreds."



To add 247 and 457 I think
of 200 + 500 so it is about 700.
700 and 300 is 1000 plus 22 more.
I agree with Sam's estimate, too.

Sara

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- Choose one of the three estimation strategies: Carla's, Levi's, or Sara's. Work with a partner. Describe what you think they are thinking. You may use numbers, number lines, pictures, base-ten shorthand, or words to help you.
- All the third-grade classes at Bessie Coleman School are taking part in the sports day. Each student will wear a green headband. There are 26 students in Mrs. Hunters class, 23 students in Mr. Martin's class, and 19 students in Ms. Alfonso's class. If the school bought 80 headbands, will there be enough? How do you know?



- The students from Lincoln and Clark Schools are coming in buses. Each bus holds 50 students. How many buses will they need? Show or tell how you decided.

✓ Check-In: Questions 5-7

The coach from Lincoln School looked at the sport's day attendance for last year. He put the data in the table below.

School	Number of Students
Bessie Coleman	312
Clark	542
Lincoln	365

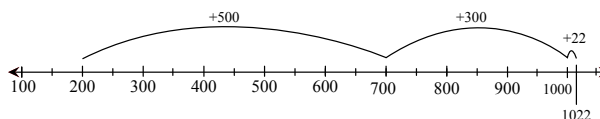
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Use the numbers in the table to solve these problems. Show your strategy.

- About how many students attended sports day last year?
- The coach bought bottles of water. The bottles came in crates of 100 bottles. How many crates did she need for all the schools?
- Each Lincoln School student wore two blue wrist bands. About how many did they have?

Possible response for Levi's estimation strategy: Levi rounded the numbers up, then added, and then used estimation. He rounded 247 up to 250 and 457 to 460. To add $460 + 250$ he could think about 100s and 50s. $400 + 50 + 10 + 200 + 50 = 600 + 100 + 10 = 710$. To add $710 + 322$, he could think $700 + 300 + 10 + 22$ which is about $1000 + 30$ or 1030.

Possible response for Sara's strategy: Sara used rounding to the hundreds. First she rounded 247 to 200 and then she rounded 457 to 500. She started at 200 on the number line and moved 500 to get 700. Then Sara moved forward 300 more and then 22 more to get to 1022.



- Yes. Possible response: 26 and 23 are both close to 25 and 19 is close to 20. When I add $25 + 25 + 20$ that equals 70, so 80 headbands will be enough.
- * 16 or 17 buses are reasonable estimates. Possible response: I estimated that Clark School will need 10 buses because I rounded 457 up to 500. Lincoln School will need 7 buses because you have to have 6 buses for 300 students and then 1 more for the extra 22 students.
- About 1200. Possible response: First I added all of the hundreds, $300 + 300 + 500 = 1100$. Then I thought that $12 + 42 + 65$ would be a little more than 100 so I added $1100 + 100$.
- 13 cases. When I estimated, I found there were more than 1200 kids, so you have to order 13 cases. If you order only 12, some kids would not get a water bottle.
- 750 would be one possible estimate.

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- * Possible response for Carla's strategy: Carla started with front end estimation by adding the hundreds. That would be like adding 2 flats + 4 flats + 3 flats.

$$\square\square + \square\square\square\square + \square\square\square = 900$$

Then she thought about the rest of the numbers and estimated that the sum of these numbers would be more than 100 so the total would be over 1000. She might have rounded 47 up to 50, 57 up to 60, and 22 down to 20 and then added 5 skinnies + 6 skinnies + 2 skinnies.

$$||||| + ||||| + || = 130$$


When she added the flats and skinnies, it would be 1030.

*Answers and/or discussion are included in the lesson.

Homework (SG p. 135)


Questions 1–5

1. 300. Possible response: If you add just the hundreds, the answer is 200. But each number is close to 150, so if you add on the extra 50s, it is closer to 300.
2. 1300 square centimeters. $35 + 73$ is a little over 100. 1200 sq cm plus 100 square centimeters is 1300 sq cm.
3. Yes, there will be enough seats. Rosa and Kim sold about 400 tickets. Emily sold about 130 more. Altogether they sold about 530 tickets.
4. No. If you add just the hundreds, the total is 500 cm, so it is not long enough.
5. **A.** The two classes brought in about 400 – 430 cookies.
B. Yes. Because the number of cookies Mrs. Hunter’s class first brought in is almost 200. A hundred more cookies would make Mrs. Hunter’s class total closer to 300.



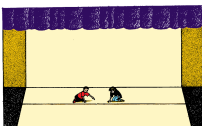
These problems do not need exact answers. Try to use mental math, a number line, or other quick strategies to make estimates. Be ready to explain your thinking.


1. The third-grade classes at Bessie Coleman School decided to put on a play for their families. On the first night of the play, two classes decorated with balloons. One class used 156 balloons. The other class used 138 balloons.



Estimate the total number of balloons used by the two classes. Do you think the total is closer to 200, 300, or 400? Why?
2. Frank and Nisha covered hats with fancy material. Frank needed 1235 square centimeters of material for his hat. Nisha’s hat needed 73 square centimeters more than Frank’s hat.

Estimate the amount of material needed for Nisha’s hat. Is it closest to 1200, 1250, or 1300 square centimeters?
3. Students sold tickets for the first night of the play. Emily sold 128 tickets, Rosa sold 203, and Kim sold 198. There are 550 seats in the theater. Will there be enough seats? How do you know?
4. Fern and Josh measured the distance across the stage for a string of lights. Fern measured from the right side and Josh from the left. When they met, Fern had measured 327 cm and Josh had measured 273 cm. They have a string of lights 500 cm long. Is it long enough to go across the stage? Why or why not?


5. The students had a bake sale to pay for the costumes. Students brought in cookies. Mrs. Hunter’s class brought in 194 cookies, and Mr. Martin’s class brought in 235.



A. About how many cookies do they have altogether?
B. If Mrs. Hunter’s class brought in 100 more cookies, would they have more cookies than Mr. Martin’s class? How do you know?

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Name _____ Date _____

Rounding Numbers

1. Place these numbers on the number line:
87, 36, 25, 160, 150, 112, 198, 102, 7, 177

2. For each number give the closest ten and hundred. The first one is done for you.

	Number	Closest 10	Closest 100
A.	87	90	100
B.	36		
C.	25		
D.	160		
E.	150		
F.	112		
G.	198		
H.	102		
I.	7		
J.	177		

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3. For each number, give the closest ten and the closest hundred. The first one is done for you. You can use base-ten pieces or think of a number line.

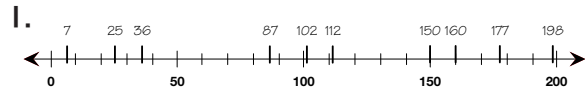
	Number	Closest 10	Closest 100
A.	284	280	300
B.	128		
C.	421		
D.	910		
E.	203		
F.	85		
G.	550		
H.	805		
I.	369		
J.	1502		

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Student Activity Book

**Rounding Numbers (SAB pp. 181–182)
Questions 1–3**



2.

	Number	Closest 10	Closest 100
A.*	87	90	100
B.	36	40	
C.*	25	20 or 30	
D.	160	160	200
E.	150	150	100 or 200

	Number	Closest 10	Closest 100
F.	112	110	100
G.	198	200	200
H.	102	100	100
I.	7	10	
J.	177	180	200

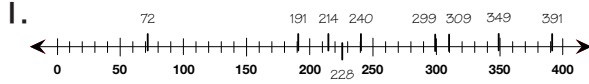
3.

	Number	Closest 10	Closest 100
A.	284	280	300
B.	128	130	100
C.	421	420	400
D.	910	910	900
E.	203	200	200
F.	85	80 or 90	100
G.	550	550	500 or 600
H.	805	800 or 810	800
I.	369	370	400
J.	1502	1500	1500

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*Answers and/or discussion are included in the lesson.

Rounding Numbers (SAB p. 183)
Homework
Questions 1–2



2.

	Number	Closest 10	Closest 100
A.	228	230	200
B.	309	310	300
C.	299	300	300
D.	72	70	100
E.	240	240	200

	Number	Closest 10	Closest 100
F.	391	390	400
G.	349	350	300
H.	214	210	200
I.	150	150	100 or 200
J.	191	190	200

Date _____

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Name _____

1. Place these numbers on the number line:
 228, 309, 299, 72, 240, 391, 349, 214, 150, 191.

2. For each number give the closest ten and hundred. The first one is done for you.

	Number	Closest 10	Closest 100
F.	391		
G.	349		
H.	214		
I.	150		
J.	191		

	Number	Closest 10	Closest 100
A.	228	230	200
B.	309		
C.	299		
D.	72		
E.	240		

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Places Please

- Ms. Alfonso's class put on a play called "500 Hats." Ana sold 45 tickets and Shannon sold 37. How many did they sell altogether? Show or tell how you know.
- Check your answer to Question 1 by solving it another way. Show your method.
- Three groups made hats for the play. The numbers of hats they made are in the table below. They needed 500 hats. Did they make enough? How do you know?

Group	Number of Hats
Group A	125
Group B	198
Group C	151

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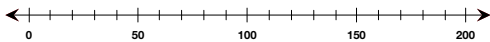
Assessment Master

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Name _____ Date _____

4. A. Place these numbers on the number line: 67, 24, 183, 147, 119, 96



- B. For each number give the closest ten and hundred.

Number	Closest 10	Closest 100	Number	Closest 10	Closest 100
67			147		
24			119		
183			96		

5. Complete the table for each number.

Standard Form	Base-Ten Shorthand	Expanded Form
Example 2305		2000
A. 3428		
B.		
C.		1000 + 20 + 7

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Assessment Master

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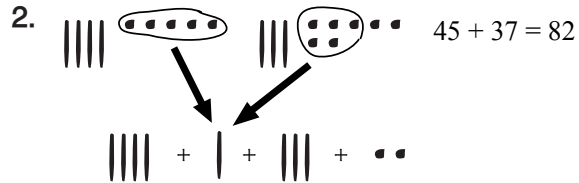
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Places Please (TG p. 1–2)

Questions 1–5

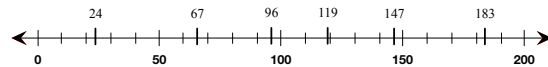
Possible methods are shown.

$$\begin{array}{r} 45 = 40 + 5 \\ + 37 = 30 + 7 \\ \hline 70 + 12 = 82 \end{array}$$



3. Answers will vary. Possible response: They did not make enough. I estimated with friendly numbers: $125 + 200 + 150 = 475$

4. A.



- B.

Number	Closest 10	Closest 100
67	70	100
24	20	
183	180	200

Number	Closest 10	Closest 100
147	150	100
119	120	100
96	100	100

- 5.

Standard Form	Base-Ten Shorthand	Expanded Form
Example 2305		$2000 + 300 + 5$
A. 3428		$3000 + 400 + 20 + 8$
B. 664		$600 + 60 + 4$
C. 1027		$1000 + 20 + 7$

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