


Addition and Subtraction: Practice and Estimation

Discuss



Dime Store Problems

Art's Dime Store is a favorite place for many third graders. It has almost anything a third grader would want, and the people who work there are friendly to kids.

The Parent Club gave Ms. Alfonso's class \$75 to buy materials for their classroom. The students looked at Art's website and found the following items and their prices:

Ms. Alfonso divided the class into three groups. Each group made a list of what they wanted to buy. They estimated to see if they had enough money for all the items they chose.

Item	Price
Electronic Journal	\$29
Butterfly Garden	\$19
Insect Habitat	\$20
Weather Station Kit	\$25
Shark Model Kit	\$13
Flying Bat Model	\$14
Ant Farm	\$11
Pottery Wheel	\$38

Copyright © Kendall Hunt Publishing Company

- Decide if each group made a good estimate. Use a few quick notes or your number line to make your decisions. Be ready to explain your thinking.
 - Group A chose the Insect Habitat, Weather Station Kit, and Pottery Wheel.
 - Group B chose the Electronic Journal, Butterfly Garden, and Weather Station Kit.
 - Group C chose the Butterfly Garden, Flying Bat Model, Shark Model Kit, and Ant Farm.

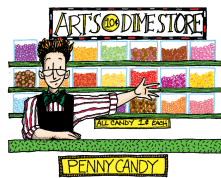
184 SG • Grade 3 • Unit 7 • Lesson 7 **Addition and Subtraction: Practice and Estimation**

Student Guide - Page 184

- What items would you choose?
 - How much will they cost?
 - Will you have money left over? If so, how much?
 - Show or tell how you know your answers are reasonable.

Use the **Addition Strategies Menu** and the **Subtraction Strategies Menu** in the Reference section.

Art's Dime Store sells LOTS of penny candy (candy that costs only 1¢). The table below shows how much penny candy the store sold in the first four months of the year.

 - How much penny candy did the store sell in January and February altogether?
 - Explain your strategy for deciding if your answer is reasonable.

Month	Number of Pieces of Candy Sold
January	2394
February	5620
March	3306
April	4885

 - The store sold lots of candy in February because Valentine's Day is February 14. How much more penny candy did the store sell in February than in January?
 - Show how you can check your work to see if your answer is correct.
 - The biggest month for selling penny candy is October because Halloween is October 31. Art thinks that he will sell about as much candy in October as he did in March and April combined. About how much candy should Art order for October?
 - Write and solve your own problem about penny candy sales at Art's Dime Store.

Copyright © Kendall Hunt Publishing Company

Addition and Subtraction: Practice and Estimation **SG • Grade 3 • Unit 7 • Lesson 7** **185**

Student Guide - Page 185

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

Student Guide

Addition and Subtraction: Practice and Estimation (SG pp. 184–186)

Questions 1–8

- Answers will vary. Group A selected items that went over budget.
 - Responses will vary. Possible response: Group B made good selections. They spent most of the money without going over the \$75 budget.
 - Responses will vary. Possible response: Group C stayed under budget but did not spend all most of the money. $\$19 + \$14 + \$13 + \11 is about \$60. With the choices they made, they could not choose any different items but may have chosen to buy two of the same item to spend more of the money.

2. Answers will vary. Students should try to spend as much of the \$75 as possible without going over. One possible response:

- Shark Model Kit, Flying Bat Model, Weather Station Kit, and Insect Habitat
- \$72
- \$3

D. The Shark Model Kit was \$13 and the Flying Bat Model is \$14. Both \$13 and \$14 are close to \$15, so first I added $\$15 + \15 to get \$30. I added the prices for the Insect Habitat and the Weather Station Kit in my head and got $\$20 + \$25 = \$45$. Then I added the \$30 to that by counting up by tens, \$45, \$55, \$65, \$75, so I know my answer is reasonable.

- 8014 pieces of penny candy
 - Student strategies will vary. One possible strategy to check for reasonableness is to round both numbers to get an estimate.

$$\begin{array}{r} \text{January} \quad 2000 \\ \text{February} \quad + \quad 6000 \\ \hline 8000 \text{ pieces} \end{array}$$

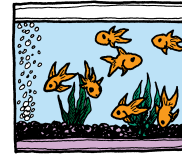
- 3226 more pieces of candy
 - Student strategies will vary. Students may choose to use addition to check their answer. $3226 + 2394 = 5620$

Copyright © Kendall Hunt Publishing Company

- 5.* Answers will vary. One possible response is about 8000 pieces of candy.
6. Answers will vary.
7. **A.** Possible response: Art had more goldfish. I used estimation to find the answer. First, I looked at the number of fish that were sold and the number that died to see about how many left the store. I rounded 462 to 460 to show the number sold and 81 to 80 to show the number that died. Then I added $460 + 80 = 540$. Since 540 is less than the number he started with but he also got 603 new fish, I knew he had more fish at the end of the week.
- B.** Possible response: Art had 60 more fish at the end of the week than at the beginning. I found an exact answer. First I added the number of fish he had during the week. I thought about $500 + 600 = 1100$ and $88 + 3 = 91$. Then I added $1100 + 91 = 1191$ total fish. Then I added the number of fish that left the store by being sold or dying. When I answered 7A, I got $460 + 80 = 540$, so I just added the 2 from the 462 and the 1 from the 81 and got 543 fish that left the store. I subtracted $1191 - 543 = 648$ to find the number of fish he had at the end of the week. Then I subtracted $648 - 588 = 60$ to get my answer.
- C.** At the end of the week Art had 648 fish.
 $588 + 60 = 648$.
8. Possible response: Art should buy another tank. If each tank holds about 150 fish, Art can hold about 600 fish in four tanks. I used doubles to find my answer. First I doubled 150 to find that 2 tanks will hold about 300 fish. Then I double 300 to find that 4 tanks will hold about 600 fish. Since Art has 648 fish he should get another tank, because 5 tanks would hold about 750 fish ($600 + 150 = 750$).

✓ **Check-In: Questions 7-8**

7. Art's Dime Store has four large tanks of goldfish. Here are Art's records for the goldfish last week:



Goldfish Inventory

Number of goldfish at beginning of week	588
Number of new goldfish from the supplier	603
Number of goldfish sold to customers	462
Number of goldfish that died	81

- A.** At the end of the week, did Art have more or fewer goldfish than he had at the beginning of the week? Show or tell how you found your answer. Explain why you chose to estimate or find an exact answer.
- B.** How many more or how many fewer goldfish did Art have at the end of the week? Show or tell how you solved the problem about Art's goldfish. Explain why you chose to either estimate or find exact answers.
- C.** How many total goldfish did Art have at the end of the week?
- 8.** Each of the tanks in Art's store will hold about 150 small fish. Art thinks he may need to buy another tank to hold all of the fish that he has. Use your answer to Question 7C to help Art decide if he should buy another tank. Show or tell how you decided.

Copyright © Kendall Hunt Publishing Company

Homework

Art has to keep careful records of all his sales. The daily total sales for the store during the first week in April are in the table below. Solve the problems. Check to see if your answers are reasonable.

- The busiest days for the store are usually on the weekend. What were the sales for Saturday and Sunday altogether?
- How much more were the combined sales of Saturday and Sunday than the combined sales of the next two busiest days?
- A. During the same week last year, the store's sales on Tuesday were \$2966. How much more did the store sell this year on Tuesday?
B. Explain a way to solve Question 3A in your head or with a few quick notes.
- Write and solve your own problem about the sales at Art's Dime Store.



Sales at Art's Dime Store
April: Week 1

Day of the Week	Sales
Monday	\$5271
Tuesday	\$3008
Wednesday	\$3065
Thursday	\$4753
Friday	\$4329
Saturday	\$8297
Sunday	\$6084

Copyright © Kendall Hunt Publishing Company

Student Guide - Page 187

Homework (SG p. 187)

Questions 1–4

- \$14,381
- \$4,357; Monday and Thursday's combined total is \$10,024.
- A. \$42

B. Solution strategies will vary.

Students can add up from 2966:

$$2966 + \textcircled{4} = 2970$$

$$2970 + \textcircled{30} = 3000$$

$$3000 + \textcircled{8} = 3008$$

$$4 + 30 + 8 = \$42$$

- Answers will vary. Possible response: About how much did the store make in sales during the first week in April? Show how you found your answer. The store made about \$34,000 during the first week of April. I rounded each number to the nearest 1000 and added.
 $5000 + 3000 + 3000 + 5000 + 4000 + 8000 + 6000$. First I looked for 10s, I added $5000 + 5000 = 10,000$ and $6000 + 4000 = 10,000$. Then I doubled the 3000 to equal 6000 and added $6000 + 8000$ to get 14,000. Finally I added $10,000 + 10,000 + 14,000 = 34,000$.

Copyright © Kendall Hunt Publishing Company