

Answer Key • Lesson 6: Partitioning with Volume

Name _____ Date _____

Many Ways to Say It

Work with a partner. Each partner will write a number sentence to describe the buildings in the plans. Then combine the number sentences to make a new true number sentence.

Building Plan		Number Sentences	
Example 		$3 + 7 + 2 + 8 = 20$ My number sentence $\underline{\hspace{2cm}}$	
		$10 + 10 = 20$ My partner's number sentence $\underline{\hspace{2cm}}$	
		$3 + 7 + 2 + 8 = 10 + 10$ Combined number sentence $\underline{\hspace{2cm}}$	

A.

Building Plan		Number Sentences	
		My number sentence $\underline{\hspace{2cm}}$	
		My partner's number sentence $\underline{\hspace{2cm}}$	
		Combined number sentence $\underline{\hspace{2cm}}$	

B.

Building Plan		Number Sentences	
		My number sentence $\underline{\hspace{2cm}}$	
		My partner's number sentence $\underline{\hspace{2cm}}$	
		Combined number sentence $\underline{\hspace{2cm}}$	

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Many Ways to Say It (SAB pp. 543–544)

Questions A–E

Possible number sentences given for Questions A–E.

A.* My number sentence: $18 + 2 + 4 + 16 = 40$
 My partner's number sentence:
 $18 + 16 + 4 + 2 = 40$
 Combined number sentence:
 $18 + 2 + 4 + 16 = 18 + 16 + 4 + 2$

B.* My number sentence: $25 + 25 + 5 + 5 = 60$
 My partner's number sentence:
 $25 + 5 + 25 + 5 = 60$
 Combined number sentence:
 $25 + 25 + 5 + 5 = 25 + 5 + 25 + 5$

C. My number sentence: $10 + 12 + 6 + 4 = 32$
 My partner's number sentence:
 $10 + 4 + 6 + 12 = 32$
 Combined number sentence:
 $10 + 12 + 6 + 4 = 10 + 4 + 6 + 12$

D. My number sentence: $90 + 10 + 60 + 40 = 200$
 My partner's number sentence:
 $10 + 60 + 90 + 40 = 200$
 Combined number sentence:
 $90 + 10 + 60 + 40 = 10 + 60 + 90 + 40$

E.* Building plans and number sentences will vary.

Partitioning with Volume

SAB • Grade 2 • Unit 10 • Lesson 6 **543**

Student Activity Book - Page 543

Name _____ Date _____

Building Plan

C.

Building Plan		Number Sentences	
		My number sentence $\underline{\hspace{2cm}}$	
		Combined number sentence $\underline{\hspace{2cm}}$	
		My partner's number sentence $\underline{\hspace{2cm}}$	

D.

Building Plan		Number Sentences	
		My number sentence $\underline{\hspace{2cm}}$	
		Combined number sentence $\underline{\hspace{2cm}}$	
		My partner's number sentence $\underline{\hspace{2cm}}$	

E. Make your own building plan.

Building Plan		Number Sentences	
		My number sentence $\underline{\hspace{2cm}}$	
		Combined number sentence $\underline{\hspace{2cm}}$	
		My partner's number sentence $\underline{\hspace{2cm}}$	

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Questions A–E

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 $10 + 4 + 6 + 12 = 32$
 Combined number sentence:
 $10 + 12 + 6 + 4 = 10 + 4 + 6 + 12$

D. My number sentence: $90 + 10 + 60 + 40 = 200$
 My partner's number sentence:
 $10 + 60 + 90 + 40 = 200$
 Combined number sentence:
 $90 + 10 + 60 + 40 = 10 + 60 + 90 + 40$

E.* Building plans and number sentences will vary.

544 SAB • Grade 2 • Unit 10 • Lesson 6

Partitioning with Volume

Student Activity Book - Page 544

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

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True or False (SAB p. 545)

Questions 1–2

1. A. True
- B. True
- C. True
- D.*True
- E.*False
- F. False
- G.*True
- H. False

I. Possible response: For Question H,
 $80 + 20 + 30 = 50 + 50 + 30$

2. A.* $6 + 7 = 7 + \boxed{6}$
- B. $1 + 2 + 9 + 4 = \boxed{7} + 8 + 1$
- C. $10 + 0 + \boxed{10} = 10 + 8 + 2$
- D. $5 + 5 + 5 + 5 + 5 + 5 = 10 + \boxed{15} + 5$
- E. $\boxed{25} + 50 + 50 + 25 = 100 + 50$

Name _____ Date _____

True or False

1. Is it true or false? Circle one.
- | | | |
|----------------------------------|------|-------|
| A. $80 + 80 = 150 + 10$ | True | False |
| B. $6 + 2 + 4 = 6 + 2 + 2 + 2$ | True | False |
| C. $7 + 7 + 3 = 14 + 3$ | True | False |
| D. $6 + 14 = 14 + 6$ | True | False |
| E. $6 + 4 = 4 - 6$ | True | False |
| F. $0 + 18 + 2 = 15 + 0 + 10$ | True | False |
| G. $50 + 30 + 2 = 2 + 30 + 50$ | True | False |
| H. $80 + 20 + 30 = 50 + 50 + 50$ | True | False |
- I. Choose one of the false statements and make it true.
-
-

2. Make the number sentences true.

- | |
|---|
| A. $6 + 7 = 7 + \boxed{\quad}$ |
| B. $1 + 2 + 9 + 4 = \boxed{\quad} + 8 + 1$ |
| C. $10 + 0 + \boxed{\quad} = 10 + 8 + 2$ |
| D. $5 + 5 + 5 + 5 + 5 + 5 = 10 + \boxed{\quad} + 5$ |
| E. $\boxed{\quad} + 50 + 50 + 25 = 100 + 50$ |

Partitioning with Volume

SAB • Grade 2 • Unit 10 • Lesson 6 **545**

Student Activity Book - Page 545

Putting It All Together (SAB p. 547)

Questions 1–3

- I. Possible number sentences:

Number sentence 1: $10 + 6 + 12 + 4 = 32$

Number sentence 2: $6 + 4 + 10 + 12 = 32$

Combined number sentence:

$$10 + 6 + 12 + 4 = 6 + 4 + 10 + 12$$

2. A. False

- B. True

- C. True

3. A. $7 + 9 + 1 = \boxed{1} + 9 + 7$

- B. $10 + 10 + 10 = 5 + 5 + 5 + 5 + \boxed{10}$

- C. $16 + 4 + 5 = 10 + \boxed{10} + 5$

Name _____ Date _____

Putting It All Together

1. Write two number sentences to describe the building in the plan. Then combine the number sentences to make one new true number sentence.

Building Plan	Number Sentences
	Number sentence 1 _____ Number sentence 2 _____ Combined number sentence _____

2. Is it true or false? Circle one.

- | | | |
|------------------------------|------|-------|
| A. $8 + 9 = 12 + 3$ | True | False |
| B. $12 + 6 + 4 = 6 + 4 + 12$ | True | False |
| C. $70 + 70 + 3 = 140 + 3$ | True | False |

3. Make the number sentences true.

- | |
|---|
| A. $7 + 9 + 1 = \boxed{\quad} + 9 + 7$ |
| B. $10 + 10 + 10 = 5 + 5 + 5 + 5 + \boxed{\quad}$ |
| C. $16 + 4 + 5 = 10 + \boxed{\quad} + 5$ |

Partitioning with Volume

SAB • Grade 2 • Unit 10 • Lesson 6 **547**

Student Activity Book - Page 547

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

Answer Key • Lesson 6: Partitioning with Volume

Name _____		Date _____																
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Putting It All Together Feedback Box <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #ffffcc;">Expectation</th> <th style="background-color: #ffffcc;">Check In</th> <th style="background-color: #ffffcc;">Comments</th> </tr> </thead> <tbody> <tr> <td>Recognize that different partitions of a number have the same total. [Q# 1-3]</td> <td>E1</td> <td></td> </tr> <tr> <td>Solve problems (e.g., partition, join) involving volume. [Q# 1]</td> <td>E2</td> <td></td> </tr> <tr> <td>Apply the properties of addition to write number sentences that represent the volume of a building. [Q# 1]</td> <td>E3</td> <td></td> </tr> <tr> <td>Count and add cubic units to find volume. [Q# 3]</td> <td>ES</td> <td></td> </tr> </tbody> </table>				Expectation	Check In	Comments	Recognize that different partitions of a number have the same total. [Q# 1-3]	E1		Solve problems (e.g., partition, join) involving volume. [Q# 1]	E2		Apply the properties of addition to write number sentences that represent the volume of a building. [Q# 1]	E3		Count and add cubic units to find volume. [Q# 3]	ES	
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Partitioning with Volume																		

548 SAB • Grade 2 • Unit 10 • Lesson 6

Student Activity Book - Page 548

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Teacher Guide

Building Parts (TG) Homework Questions A–C

Possible number sentences given for Questions A–C:

- A. Number sentence 1: $20 + 80 + 40 + 60 = 200$
Number sentence 2: $60 + 20 + 80 + 40 = 200$
Combined number sentence:
 $20 + 80 + 40 + 60 = 60 + 20 + 80 + 40$
- B. Number sentence 1: $22 + 8 + 34 + 4 = 68$
Number sentence 2: $34 + 4 + 22 + 8 = 68$
Combined number sentence:
 $22 + 8 + 34 + 4 = 34 + 4 + 22 + 8$
- C. Building plans and number sentences will vary.

Name _____		Date _____															
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3 TG • Grade 2 • Unit 10 • Lesson 6 • Answer Key