

Student Activity Book

Volume Problems (SAB pp. 575–578)
Questions 1–4

1. **A.*** 14 cc; Possible responses:
 $94 \text{ cc} - 80 \text{ cc} = 14 \text{ cc};$
 $80 \text{ cc} + \square \text{ cc} = 94 \text{ cc}$ or
 $80 \text{ cc} + 14 \text{ cc} = 94 \text{ cc}$
- B.*** 49 cc; shading should show water level of 49 cc
- C.*** 36 cc; $50 - 14 = 36 \text{ cc};$
 $50 \text{ cc} = \square + 14 \text{ cc}$ or
 $36 \text{ cc} + 14 \text{ cc} = 50 \text{ cc};$ the arrow should point to 36 cc

- 2.* 75 cc; Strategies will vary. Possible response:
 $50 \text{ cc} + 25 \text{ cc} = 75 \text{ cc}$

Name _____ Date _____

Volume Problems

1. Sara dropped the same rock in each graduated cylinder below. The arrow shows the starting level of the water.

A. What is the volume of the rock?
Number sentence _____

B. Sara moved the rock to this graduated cylinder. What is the total volume of the water and the rock in the cylinder?
Show the total volume. Shade the graduated cylinder.

C. Sara moved the rock to this graduated cylinder. What was the starting level of the water in the graduated cylinder?
Draw an arrow to show the water level before the rock was added.

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2. John's rock has a volume of 25 cc. He put 50 cc of water into the graduated cylinder. What is the water level with both the rock and the water in the cylinder? Show the water level. Shade the graduated cylinder.

Explain how you got your answer.

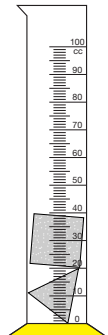
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*Answers and/or discussion are included in the lesson.

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3. Natasha has two objects. One object has a volume of 15 cc. The other object has a volume of 18 cc. She placed both objects in 60 cc of water.



What is the total volume in the graduated cylinder? Shade the graduated cylinder. Write a number sentence for the total volume.

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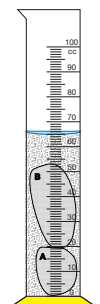
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- 3.* 93 cc; Strategies will vary. Possible responses:
 $15 \text{ cc} + 18 \text{ cc} = 33 \text{ cc}$ and
 $33 \text{ cc} + 60 \text{ cc} = 93 \text{ cc};$
 $15 \text{ cc} + 18 \text{ cc} + 60 \text{ cc} = 93 \text{ cc}$

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4. Levi put 40 cc of water and two objects into a graduated cylinder. He knows that the volume of Object A is 6 cc. The volume of both objects and the water is 65 cc. Jim said, "I can figure out the volume of Object B without taking Object A out."



Help Levi show his thinking by answering each question.

A. What is the total volume in the graduated cylinder? _____

B. What is the volume of water and Object A? _____

C. What is the volume of Object B? _____

D. Find the volume of Object B a different way. Explain your thinking.

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4. A.* 65 cc
 B.* 46 cc
 C.* 19 cc
 D.* Responses will vary. Two possible solutions follow:
 I subtracted the volume of Object A from the total volume in the graduated cylinder:
 $65 \text{ cc} - 6 \text{ cc} = 59 \text{ cc}.$
 That shows the volume of Object B and the water together, so I subtracted the starting volume of the water from that to get the volume of Object B:
 $59 \text{ cc} - 40 \text{ cc} = 19 \text{ cc}.$
 I subtracted the starting volume of water from the total volume in the graduated cylinder, $65 - 40 = 25 \text{ cc}$, then subtracted the volume of Object A,
 $25 \text{ cc} - 6 \text{ cc} = 19 \text{ cc}.$

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

Volume Math Check (SAB pp. 579–583)

Questions 1–7

1. 5 cc; number sentences will vary. One possible number sentence is: $25 \text{ cc} - 20 \text{ cc} = 5 \text{ cc}$.
2. 45 cc; Possible responses:
 $92 \text{ cc} - 47 \text{ cc} = 45 \text{ cc}$; $47 \text{ cc} + \square = 92 \text{ cc}$ or
 $47 \text{ cc} + 45 \text{ cc} = 92 \text{ cc}$
3. 39 cc; Possible responses: $47 \text{ cc} + \square = 86 \text{ cc}$
or $47 \text{ cc} + 39 \text{ cc} = 86 \text{ cc}$;
 $86 - 47 = 39 \text{ cc}$
4. 32 cc; Possible response: $94 \text{ cc} - 27 \text{ cc} = 67 \text{ cc}$
and $67 \text{ cc} - 35 \text{ cc} = 32 \text{ cc}$
5. A. <
B. =
C. >

Name _____ Date _____

Volume Math Check

1. What is the volume of the clay in the cylinder labeled “after”?
Write a number sentence to show how you got your answer.

Number sentence _____

before after

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Show how to solve each problem.

2. Liz put a toy car into a graduated cylinder. The water was at 92 cc. The level of the water after Liz took the car out of the graduated cylinder was 47 cc. What is the volume of the toy car?

Number sentence _____

3. Rosa put 47 cc of water in a graduated cylinder. She added a small toy. The water level is at 86 cc. What is the volume of the small toy?

Number sentence _____

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4. Peter put 35 cc of water and two small toys into a graduated cylinder. One toy is red and the other is blue. The volume in the cylinder with the two toys is 94 cc. The red toy has a volume of 27 cc. What is the volume of the blue toy?

Number sentence _____

5. Compare the volumes. Use <, >, or =.

A. $166 \text{ cc} + 72 \text{ cc}$ ○ $154 \text{ cc} + 93 \text{ cc}$
B. $148 \text{ cc} + 102 \text{ cc}$ ○ $89 \text{ cc} + 161 \text{ cc}$
C. $256 \text{ cc} - 131 \text{ cc}$ ○ $227 \text{ cc} - 118 \text{ cc}$

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