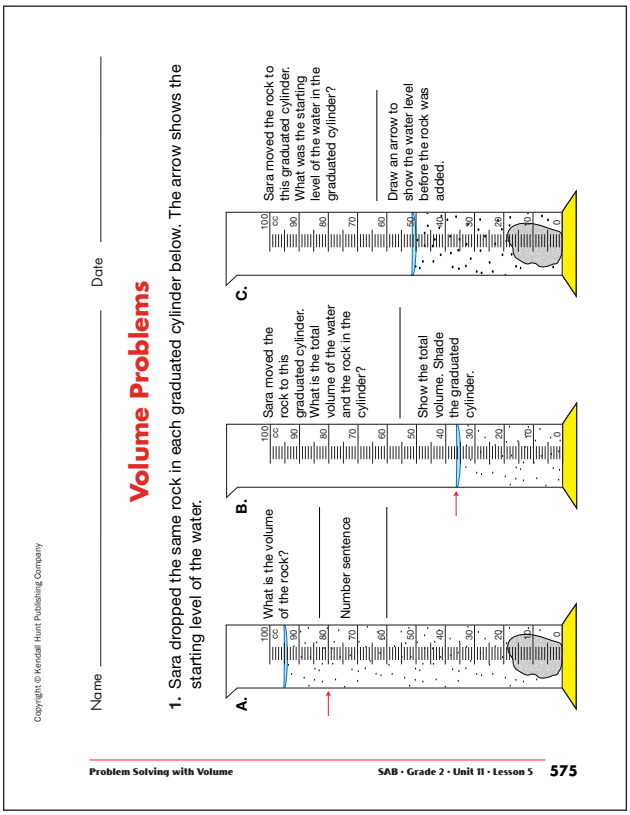
Student Activity Book

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

1. **A.*** 14 cc; Possible responses:
   94 cc − 80 cc = 14 cc;
   80 cc + ☐ cc = 94 cc or
   80 cc + 14 cc = 94 cc

   B.* 49 cc; shading should show water level of 49 cc

   C.* 36 cc; 50 − 14 = 36 cc;
   50 cc = ☐ + 14 cc or
   36 cc + 14 cc = 50 cc; the arrow should point to 36 cc



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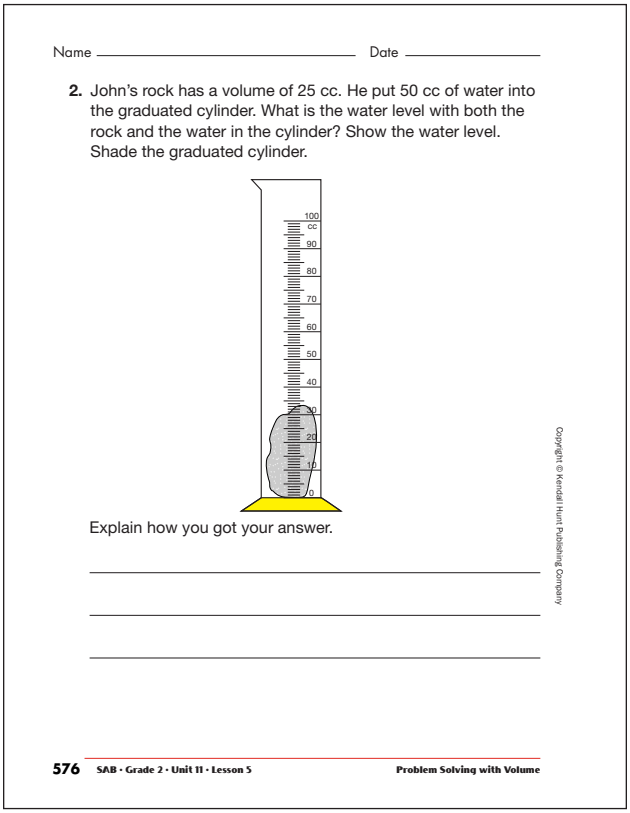
2.* 75 cc; Strategies will vary. Possible response:
50 cc + 25 cc = 75 cc



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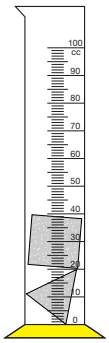
*Answers and/or discussion are included in the lesson.

Name _____ Date _____

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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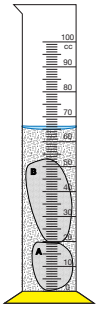
3.* 93 cc; Strategies will vary. Possible responses:
15 cc + 18 cc = 33 cc and
33 cc + 60 cc = 93 cc;
15 cc + 18 cc + 60 cc = 93 cc

Name _____ Date _____

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 cc − 6 cc = 59 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 cc − 40 cc = 19 cc.
I subtracted the starting volume of water from the total volume in the graduated cylinder, 65 − 40 = 25 cc, then subtracted the volume of Object A,
25 cc − 6 cc = 19 cc.

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

Volume Math Check (SAB pp. 579–583)
Questions 1–7

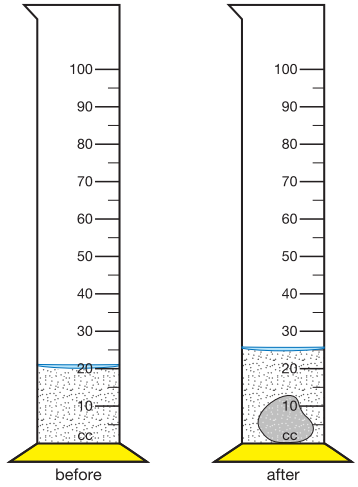
1. 5 cc; number sentences will vary. One possible number sentence is: 25 cc − 20 cc = 5 cc.
2. 45 cc; Possible responses: 92 cc − 47 cc = 45 cc; 47 cc + ☐ = 92 cc or 47 cc + 45 cc = 92 cc
3. 39 cc; Possible responses: 47 cc + ☐ = 86 cc or 47 cc + 39 cc = 86 cc; 86 – 47 = 39 cc
4. 32 cc; Possible response: 94 cc − 27 cc = 67 cc and 67 cc − 35 cc = 32 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 _____



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Name _____ Date _____

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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Name _____ Date _____

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 cc + 72 cc ◯ 154 cc + 93 cc

B. 148 cc + 102 cc ◯ 89 cc + 161 cc

C. 256 cc − 131 cc ◯ 227 cc − 118 cc

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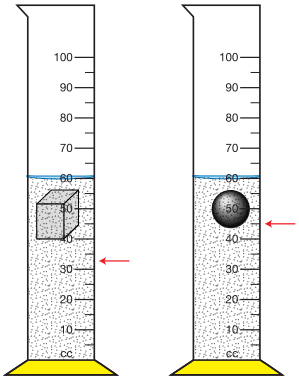
Name _____ Date _____

6. Josh put 33 cc of water and a wooden block in a graduated cylinder. The total volume with the water and wooden block is 60 cc. Sam put 45 cc of water and a small ball in a different graduated cylinder. The total volume of water and the ball in Sam's cylinder is 60 cc. Sam told Josh that the block and ball have the same volume because the total volume in each cylinder is 60 cc.



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Do you agree with Sam? Why or Why not?

_____

_____

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Name _____ Date _____

7. Mark wants to fill a fishbowl for his pet, Joe the Fish. The bowl can hold 350 cc of water. The volume of the water and gravel Mark put in the fishbowl is 165 cc. He added a castle with a volume of 98 cc and a plant with a volume of 35 cc. Joe the Fish is 76 cc. Is there enough room so that the bowl doesn't overflow when Mark puts Joe the Fish into the bowl? Explain your thinking.

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6. disagree, the wooden block has a greater volume; Possible response: I disagree with Sam. He put more water into the cylinder so that means his toy has a smaller volume than Josh's. The volume of the wooden block is 27 cc; 60 cc − 33 cc = 27 cc and the volume of the ball is 15 cc; 60 cc − 45 cc = 15 cc.

7.* No, the bowl will overflow by 24 cc; Strategies will vary. Possible strategies: 350 cc − 165 cc − 98 cc − 35 cc = 52 cc and Joe is 76 cc so the bowl will overflow a little; 165 cc + 98 cc + 35 cc + 76 cc = 374 cc and that's 24 cc more than the bowl will hold.

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

Teacher Guide

Miguel's Volume Problem
Homework (TG pp. 1–2)
Questions 1–2

1. 72 cc − 12 cc = 60 cc; ☐ cc + 12 cc = 72 cc

Name _____ Date _____

Miguel's Volume Problem

Homework

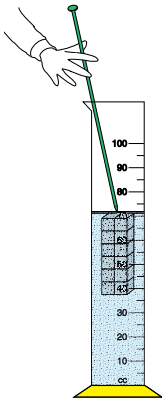
Dear Family Member:

Your child is learning to read volumes on graduated cylinders. Students learned that centimeter connecting cube are about 1 cc of volume each, so the volume of 12 cubes is 12 cc. Help your child complete the problem below.

Thank you.

1. Miguel put 12 centimeter connecting cubes into water. The graduated cylinder reads 72 cc.

   How much water is in the graduated cylinder? Write a number sentence to show how you got your answer.



Number sentence _____

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Homework Master TG • Grade 2 • Unit 11 • Lesson 5 1

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2. **A.** 302
   B. 91
   C. 177
   D. Possible response: 272 − 171 = 101 and 101 − 10 = 91
   E. One possible response: use friendly numbers 160 and 240. 100 + 100 = 200, 60 + 40 = 100, and 200 + 100 = 300; 302 is close to 300.

2. **A.** 163 + 139 **B.** 262 − 171 **C.** 326 − 149 =

D. Chose one problem from Question 2. Show how to solve it using a mental math strategy.

E. Show or tell how you know your answer to Question 2A is reasonable.

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