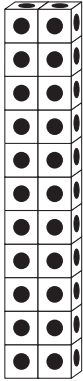Name _____ Date _____

TIMS Towers

Tall Tower

Build a cube model of the Tall Tower. Use your model and the drawing to answer the questions. Include units.

1. **A.** How many floors are in the Tall Tower?

   _____

   B. How many cubes are on each floor?

   _____

   C. What is the volume of the Tall Tower?

   _____

2. Show or tell how you grouped the cubes to find the volume.

3. Write a number sentence to show how you found the volume.
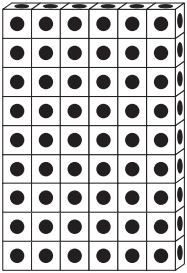
Tall Tower

_____

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Sky-High Tower

Build a cube model of Sky-High Tower. Use your model and the drawing to answer the questions. Include units.

Sky-High Tower

4. **A.** How many floors are in the Sky-High Tower?

   _____

   B. How many cubes are on each floor?

   _____

   C. What is the volume of the Sky-High Tower?

   _____

5. Show or tell how you grouped the cubes to find the volume.

6. Write a number sentence to show how you found the volume.

_____

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

Student Activity Book

TIMS Towers (SAB pp. 435–438)
Questions 1–11

1. **A.** 11 floors

   B. 2 cubes

   C. *22 cubic units

2. * Possible responses: I grouped by floors. There are 2 cubes on each floor so I skip counted by 2s (2, 4, 6, 8 10, 12, 14, 16, 18, 20, 22). I grouped the cubes by columns. There are 2 columns with 11 in each column. I doubled 11 to get 22 cubic units.

3. * Possible responses: $2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 22$; $11 + 11 = 22$;

   $10 + 10 + 2 = 22$; $10 + 10 + 1 + 1 = 22$

4. **A.** 9 floors

   B. 6 cubes

   C. *54 cubic units

5. * Possible responses: Since there are 6 cubes on each floor, I divided each floor into $5 + 1$. First I skip counted by 5s for the 9 floors (5, 10, 15, 20, 25, 30, 35, 40, 45) and then I counted on for the left over cubes (46, 47, 48, 49, 50, 51, 52, 53, 54). I saw that there were 9 in each column and there are 6 columns. Since 9 is 1 less than 10 I thought about how many six 10s will be. It is 60. Then I counted back 6 to take away the extra cubes (59, 58, 57, 56, 55, 54).

6. * Possible response:
   $5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 9 = 54$

7. **A.*** 6 floors

   B.* 6 cubes

   C.* 36 cubic units

8.* Possible responses: I grouped the cubes by floors. There are 6 cubes on each floor and there are 6 floors. I used my calculator to add $6 + 6 + 6 + 6 + 6 + 6 = 36$. I counted 18 cubes on the front side of the building. I knew there were also 18 cubes on the back of the building, so I used my calculator to add $18 + 18 = 36$.

9.* Possible responses: $6 + 6 + 6 = 18$; $18 + 18 = 36$

10. **A.** 10 cubes

    B. 5 floors

    C. 50 cubic units

11. Possible response: John grouped the cubes by floor. There are 10 cubes on each floor and there are 5 floors, so he counted by 10s (10, 20, 30, 40, 50) to get 50 cubic units.

Name _____ Date _____

More Towers

Build cube models of each building. Use your model to answer the questions. Include units.

Triple Double Tower

7. **A.** How many floors are in the Triple Double Tower?

   _____

   B. How many cubes are on each floor?

   _____

   C. What is the volume of the Triple Double Tower?

   _____

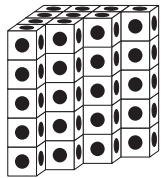8. Show or tell how you grouped the cubes fo find the volume.

9. Write a number sentence to show how you found the volume.

   _____

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Name _____ Date _____

Sawtooth Tower

10. **A.** How many cubes are on each floor of the Sawtooth Tower?

    _____

    B. How many floors are in the Sawtooth Tower?

    _____

    C. What is the volume of the Sawtooth Tower?

    _____

11. John thinks the volume of Sawtooth Tower is 50 cubic units. He said he skip counted by tens. Show or tell John's strategy.

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

Student Activity Book - Page 439

TIMS Radio Tower (SAB p. 439)
Questions 1–4

1. 7 floors

2. 48 cubic units

3. Three possible responses: I grouped the cubes on the bottom of the building by columns. There are 8 columns with 5 cubes in each, so I counted by 5s (5, 10, 15, 20, 25, 30, 35, 40). There are 8 cubes on the top of the tower so I added 40 + 8 = 48 cubic units. I counted the cubes on the front side of the building and got 24 cubes. I knew there were also 24 cubes on the back of the building so I used my calculator to add 24 + 24 = 48 cubic units. I counted the cubes on the two short columns at the ends of the building. Each side had 10 cubes, so first I added 10 + 10 = 20. Then I counted the cubes in the middle two columns. Each one had 14 cubes. I added 14 + 14 = 28. Then I used the calculator to add 20 + 28 = 48 cubic units.

4. Possible response: 20 + 20 + 4 + 4 = 48

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Teacher Guide

Two Towers (TG pp. 1–2)
Homework
Questions 1–6

1. 28 cubic units

2. 25 cubic units

3. Tower 2

4. Tower 1

5. Possible response: I divided the tower into two parts. The bottom of the tower has 5 floors with 4 cubes in each floor. The top of the tower has 4 floors with 2 cubes in each floor. I counted by 5s to find the volume of the bottom part (5, 10, 15, 20) and then I counted by 2s to find the volume of the top (2, 4, 6, 8). Then I added 20 + 8 = 28 cubic units to find the total.
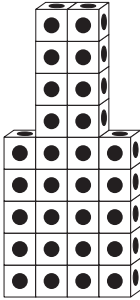
6. Possible response: 5 + 5 + 5 + 5 + 4 + 4 = 28

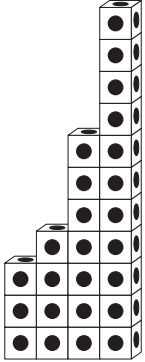
Name _____ Date _____

Two Towers

Homework

Find the volume of each tower. Include units.

Tower 1   Tower 2

1. What is the volume of Tower 1? _____

2. What is the volume of Tower 2? _____

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Name _____ Date _____

3. Which tower is taller? _____

4. Which tower has the greater volume? _____

5. Show or tell how you found the volume of Tower 1.

6. Write a number sentence to show how you found the volume of Tower 1.

_____

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