



SCOTT FORESMAN Investigations

IN NUMBER, DATA, AND SPACE®

As a way to become familiar with this unit:

- Read the selections
- Try/think through the Activities
- Review the Assessment opportunities
- Do the end-of-unit assessment tasks

Moving Between Solids and Silhouettes

This unit is the 7th of 9 units in fourth grade. It builds on the work of the previous units in the K-5 3D Geometry and Measurement strand. Before teaching this unit, perhaps after working through this *Where to Start*, read *Mathematics in This Unit*, p. 10.

Investigation 1: Geometric Solids

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 19)
- Investigation 1 Planner (p. 20)

The following activities and information support the key math ideas:

- Activity: Introducing What's the Shape? (p. 23) and Discussion: Words We Use (p. 24)
- Activity: Matching Solids and Silhouettes (p. 28)
- Activity: Introducing City Landscapes (p. 35)
- Teacher Note: Difficulties in Visualizing Silhouettes (p. 97)

Investigation 2: Making and Visualizing Cube Buildings

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 45)
- Investigation 2 Planner (p. 46)

The following activities and information support the key math ideas:

- Activity: Making Cube Buildings (p. 49)
- Teacher Note: Interpreting 2-D Diagrams of 3-D Shapes (p. 100)
- Activity: Introducing Different Silhouettes (p. 56)
- Dialogue Box: Describing Our Building Silhouettes (p. 115)

Preparation

- Materials to Gather and Prepare (pp. 21, 47, 75)

Assessment

- Assessment in This Unit (p. 14)
- Assessment Activity (p. 42) and Teacher Note (p. 99)
- Assessment Activity (p. 71)
- End-of-Unit Assessment Activities (p. 95) and Teacher Note (p. 106)

Practice & Review

- Classroom Routines (p. 16)
- Practice and Review (p. 17)

- Activity: Introducing Building from Silhouettes (p. 65) and Discussion: Comparing Buildings (p. 66)

Investigation 3: Understanding Volume

These pages provide an overview of this Investigation:

- Mathematical Emphases (p. 73)
- Investigation 2 Planner (p. 74)

The following activities and information support the key math ideas:

- Activity: Introducing How Many Cubes (p. 77) and Discussion: Counting Cubes (p. 80)
- Discussion: Patterns from the Bottom Up (p. 82)
- Math Workshop: Finding Volume (p. 86)
- Teacher Note: Strategies for Finding the Number of Cubes in 3-D Arrays (p. 103)

Teacher Notes and **Dialogue Boxes** are important sources of information about mathematics content and about students' thinking about mathematical ideas. Each time you teach this unit, you can read more of this information.