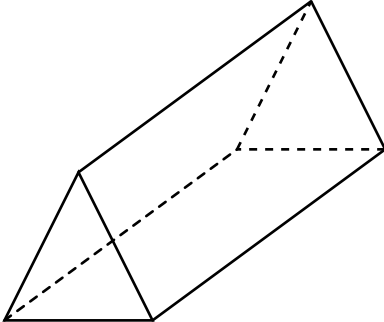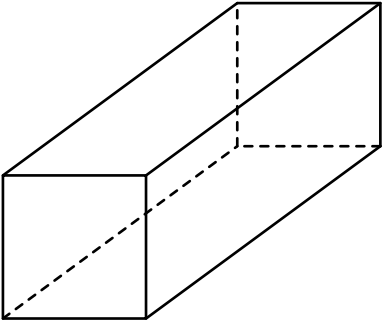# About the Mathematics in This Unit (page 1 of 2)

Dear Family,

Our class is starting a new mathematics unit about geometry and measurement called *Solids and Boxes.* During this unit, students work with geometric solids (such as cubes, cylinders, and pyramids) and describe the features of these 3-dimensional shapes. Students also make boxes out of paper and fill the boxes with cubes; this activity gives them the chance to develop their ideas about finding the volume of a box.
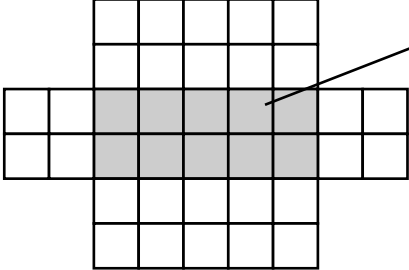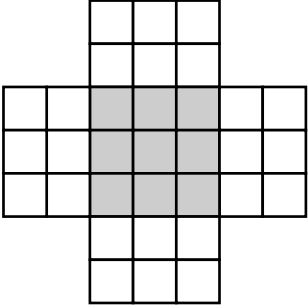
Throughout the unit, students work toward these goals:

BENCHMARKS/ GOALS	EXAMPLES
Identify and compare attributes of 3-dimensional solids.	Which of these shapes has more faces? The triangular prism has 5 faces: one triangle on the top, one triangle on the bottom, and 3 rectangles on the sides. The square prism has 6 faces: one square on the top, one square on the bottom, and 4 rectangles on the sides. The square prism has one more face than the triangular prism.

(continued)

About the Mathematics in This Unit (page 2 of 2)

BENCHMARKS/ GOALS	EXAMPLES
Determine the number of cubes (volume) that will fit in the box made by a given pattern.	How many cubes will fit in this box? $2 \times 5 = 10$ 2 layers: $10 + 10 = 20$ **20 cubes** Ten cubes fit on the bottom layer. When you fold up the sides there will be two layers of 10, or 20 cubes.
Design patterns for boxes that will hold a given number of cubes.	Design a box to hold 18 cubes. I made the bottom layer 3×3—that will be 9 cubes. I made the sides two layers high to get $9 + 9$ or 18 cubes.

In our math class students spend time discussing problems in depth and are asked to share their reasoning and solutions. It is important that children solve math problems in ways that make sense to them. At home, encourage your child to explain his/her math thinking to you.

Please look for more information and activities about *Solids and Boxes* that will be sent home in the coming weeks.