



Algebraic Reasoning

Professor Arbegla

Introduces Variables and Functions

GEMS Teacher's Guide® for Grades 3–5



WHAT YOU NEED FOR THE WHOLE UNIT

The quantities below are based on a class size of 32 students. You may, of course, require different amounts for smaller or larger classes. This list gives you a concise “shopping list” for the entire unit. Please refer to the “What You Need” and “Getting Ready” sections for each individual activity, which contain more specific information about the materials needed for the class and for each team of students.

Nonconsumables

- 1 copy of Professor Arbegla’s **Letter #1: Malfunction in the Function Machine** (page 38) to be signed
- 1 overhead transparency of *signed Letter #1*
- 1 copy of Professor Arbegla’s **Letter #2: Oh, No, Not Again!** (page 39) to be signed
- 1 overhead transparency of *signed Letter #2*
- 1 copy of Professor Arbegla’s **Letter #3: My Multiplication Discovery** (page 84) to be signed
- 16 sets of base ten blocks* (wooden, plastic, or paper) in the following approximate denominations (the quantity will vary depending on the magnitude of the numbers used in the activity):
 - ___ 35 ones (units) per set for a total of 560
 - ___ 15 tens (longs) per set for a total of 240
 - ___ 1 hundred (flat) per set for a total of 16
- 16 bags or containers to hold the block sets
- 1 overhead transparency of one-centimeter grid paper (page 106, or you can purchase)
- (*optional*) 8 cups of dry beans (black, pinto, or any small bean)
- (*optional*) 32 containers for beans (8- or 16-oz. yogurt, sour cream, and/or cottage cheese containers work well)
- (*optional*) 1 overhead transparency of *signed Letter #3*

*You can order sets of base ten blocks (see “Resources” on page 130) or make paper models from the master on page 85.

Consumables

- 32 algebra (or mathematics) journals
- 32 *signed* copies of Professor Arbegla’s **Letter #2**
- (*optional*) 32 lists of problem-solving strategies (page 27) to place in journals

General Supplies

- 5 sheets of butcher paper, each approximately 24 in. x 36 in.
- several wide-tipped colored markers
- masking tape
- an overhead projector
- overhead pens
- 33 sheets of construction paper, 12 in. x 12 in.
- a ruler
- scissors
- 1 yardstick or tape measure
- string
- approximately 128 sheets of one-centimeter grid paper (page 106 or purchased)
- (optional) 32 thick pieces of cardboard to make a pocket in journal

