



Take
Action!

Create memorable graphics.

You can also encourage students to create their own graphic organizers to help them remember vocabulary associated with specific mathematical terms. One sixth-grade teacher encourages students to think about vocabulary or concepts associated with particular terms that they have trouble remembering. As the group brainstorms examples, it is common for another student to comment, “Oh, I have trouble with that one, too.” The teacher then suggests that they create a graphic that will help them remember. She tells them, “Create something so memorable and meaningful that you could never forget again.”

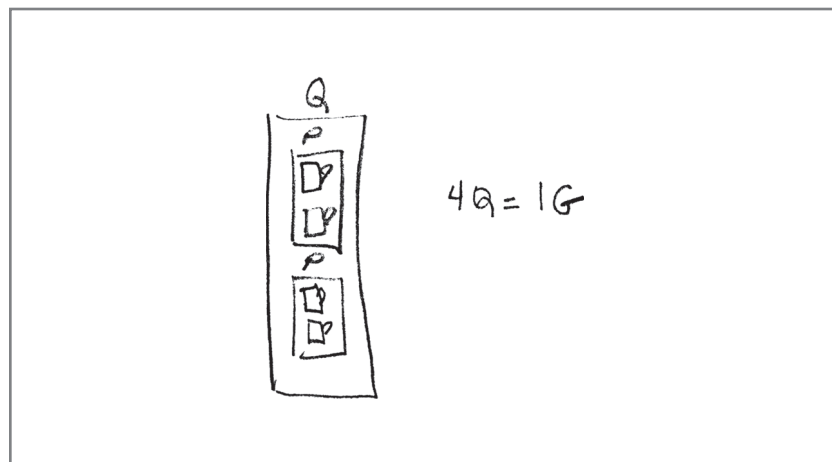
Gus, who always seems to forget the relationships among the U.S. standard units for liquid measures, makes a picture to depict them. As shown in Figure 6–10, his drawing includes two containers that look like cups in each of two containers labeled with P s (for pints), which are within an outline labeled with a Q (for quart). At the very top he has written $4Q = G$ so that he can generalize to gallons.

Denise, Carolyn, and Shanna always get confused about the terms *multiple* and *factor*.

Carolyn says, “Oh, the multiple is the big one and the factor is the little one, like four times five equals twenty.” Shanna agrees and suggests that they close their eyes and think of a small thing that begins with F on top of a large thing that begins with M . Carolyn closes her eyes and then reports with excitement that she saw a small frog on top of a big mountain.

Denise is less certain about this idea and wonders about $4 \times -5 = -20$. She asks, “Doesn’t this mean that the multiple can be less than a factor?”

Figure 6–10 Gus’s graphic to remember the relationships among the U.S. standard units for liquid measures.



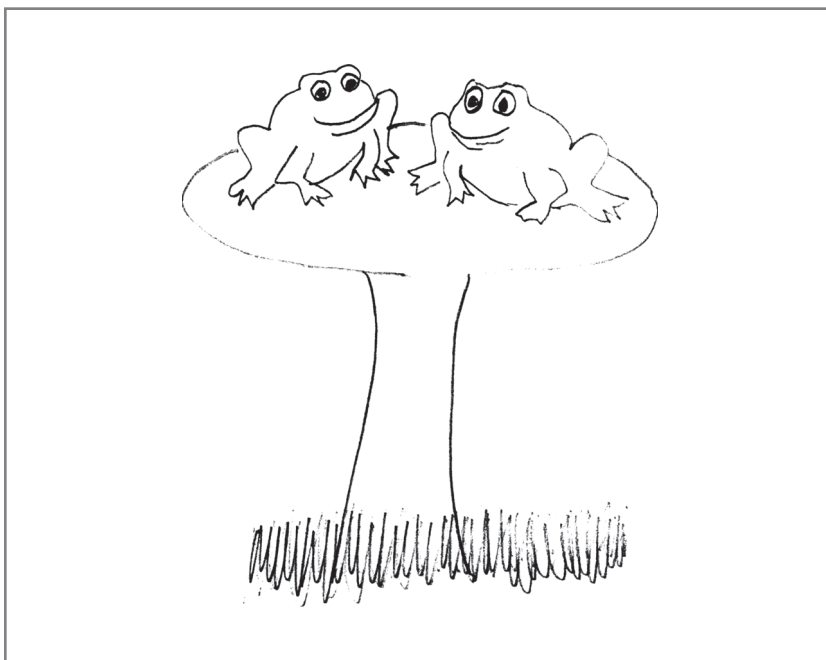


Figure 6–11 *Shanna's graphic to remember factor and multiple.*

Shanna, ever the peacemaker, says, “Wait, let’s focus on something else. There are always two factors and one multiple. We can make a picture with two frogs sitting on one mushroom.” This image causes some giggling and the girls each begin to make a drawing, one of which is shown in Figure 6–11.

Dean and Janice decide that they have trouble remembering that one is not a prime number. Janice writes *1* and the word *prime*, and then crosses out *prime*. Dean looks at her drawing for a bit and then starts talking about the television show *Numb3rs* and how the name is written with a 3 instead of an E. They decide to write *prime* with a 1 instead of an I and then cross out the 1. Their graphic is shown in Figure 6–12.

Some teachers present problems in a way that graphically organizes a student’s work. One example is a structured form

Figure 6–12 *Dean and Janice's graphic to remember that one is not prime.*

