MULTIPLYING WITH PACKAGES AND LETTERS

Episode 211: Blossom and Snappy Go to the Post Office
3rd Grade

Georgia Performance Standards

- M3N3b Know the multiplication facts with understanding and fluency to 10x10
- M3N3c Use arrays and area models to develop understanding of the distributive property and to determine partial products for multiplication of 2 or 3-digit numbers by a 1-digit number
- M3N3d Understand the effect on the product when multiplying by multiples of 10
- M3N3f Use mental math and estimation strategies to multiply
- M3N3g Solve problems requiring multiplication

Objectives

- The students will figure out how many packages fit on a truck if 200 packages fit into a metal cage and 30 metal cages fit on a truck.
- The students will use the other factors of six (3x2, 1x6, 6x1), for example, 300 packages and 20 cages or 100 packages in 60 cages, to determine whether they will get the same results as the first objective.

Materials

- TV/VCR or Computer/LCD Projector
- Video *Count On It!* 211
- Paper, pencils
- Overhead projector, overhead markers, several overhead copies of a blank array

Procedure

Opening

- Put the problem “1x2” on the board. Students should know readily that the answer is 2. Show this on the blank array via the overhead.
- Now put the problem “10x2” on the board. Again, students should readily know the answer is 20. Sow this on another blank array via the overhead projector.
- Do the same with the problem “20x1,” as well as “20x10.” Have problems and answers lined up on the board so that students can see the pattern:
  1 x 2 = 2
  10x2 = 20
  1x20 = 20
  10x20=200

Work time

- View *Count On It!* 211 clip “Multiplying Packages and Letters” (VHS 13:32 – 14:30).
- Review how Blossom and Snappy figured out how many letters fit on each truck (2000 letters per bag, 12 bags per cart, and 30 carts per truck equals 720,000 letters per truck). These large numbers can be daunting to third graders, so make sure you show them how simple it is to use the short cut of doing the multiplication with the smaller numbers, then add up how many zeros to tack on to the end of the answer.
- Watch the video segment again, and pose the question, “How many packages can fit on a truck if 200 can fit on a cage and 30 cages can fit on a truck?” Write the problem on the board: 200 packages/cage x 30 cages/truck =?
- Extend the question, “What will happen to the answer if there were 300 packages/cage and 20 cages/truck?”
- And then have them figure 100 packages/cage x 60 cages/truck and 600 packages/cage x 10 cages/truck.
- Ask students why they keep getting 6000 as their answer. (The object is for students to see that the result will always be 6000 packages because there are always 3 zeros and the smaller numbers are always multiples of 6.)

Closing

- Choose several students to share their thinking with the rest of the class.

Assessment

- Work may be assessed
- Teacher observation/documentation on student rubric used by your school/county during work time and closing (sample rubric can be found on our website)