

# U.S. Traditional Multiplication (Standard)

*U.S. traditional multiplication (standard) is familiar to most adults and many children. A person using this algorithm multiplies from right to left, regrouping as necessary.*

*The traditional method for teaching this algorithm is to begin with models (such as base-10 blocks) and then gradually move toward the use of symbols (that is, numerals) only.*

## Build Understanding

Since students will need a sharp eye for place value to succeed with this algorithm, conduct a basic-facts review—with a place-value twist. Have students take out their slates and chalk, or paper and pencils. On their slates, have them copy the chart shown in the margin. Tell them that you will call out problems and that they should write the answers on their slates with the digits written correctly in the chart.

H	T	O

Ask a volunteer to read her or his answer and identify the value of each digit (for example: “72; 7 tens and 2 ones”). After reviewing some of the basic multiplication facts, expand the review to include multiples of ten. Use such problems as  $30 * 8$ ;  $60 * 4$ ;  $200 * 7$ ; and  $500 * 5$ . Make sure students expand their place-value charts to accommodate their 3- and 4-digit answers.

Using page 49, explain that with this method of multiplying, students will begin with the ones digit in the bottom factor. Use questions such as the following to guide students through the example (and through other examples you provide):

- Will you begin multiplying with the digits on the right or on the left? (*on the right*)
- What is the correct method for recording each individual product? (*If the product has one digit, align it in the correct column under the two factors. If the product has two digits, align the right digit below the two factors, in the correct column, and regroup the left digit at the top of the next place-value column to the left. If there are no columns to the left, then record the 2-digit answer.*)

**Error Alert** Watch for students who skip a digit when they multiply a 3-digit number by a 2-digit number. Have students use their index fingers to point to each digit in the top factor as they work. This method may help ensure that students multiply every digit in the bottom factor by every digit in the top factor.

## Check Understanding

Divide students into pairs. Have them solve the problem  $572 * 43$ . Tell them to write neatly, and then have them exchange papers with their partners. Direct students to check each other’s problems. If they find a mistake, ask them to identify the mistake. When you are reasonably certain that most of your students understand the algorithm, assign the “Check Your Understanding” exercises at the bottom of page 49. (*See answers in margin.*)

### Page 49 Answer Key

1. 432
2. 210
3. 558
4. 11,051
5. 7,975
6. 36,064
7. 19,203
8. 57,908

