FIGURE 7

Examples of the partial quotient process below use the “Big 7” strategy.

(a) This shows the partial quotient process for 25 ÷ 7.

7) 25	
−7	1
18	
−7	1
11	
−7	1
4	

(b) This shows the partial quotient process for 67 ÷ 5.

5) 67	
−50	10
17	
−5	1
12	
−5	1
7	
−5	1
2	

TABLE 2

The 5E model lesson cycle includes the elements of Engage, Explore, Explain, Elaborate, and Evaluate. It is used to stimulate student interest as the Division Quilts lesson sequence unfolds.

Lesson 2: Connecting to the Partial Quotient strategy	
Essential question	**How can I solve a division problem using the division algorithm?**
Explore	Make sure each student has a division quilt that shows 25 ÷ 7 = 3 R 4. Have students discuss In groups what they did to make the quilt.
Evaluate	Ask students to explain what they see as connections between multiplication and division.
Explain	1. Guide students through the partial quotient process (see **fig 7a**). 2. Ask what the 1 to the outside stands for (which is 1 seven). 3. Ask students to share what they discussed in their groups that could answer this prompt: What connection do you see between your division quilt and the problem in **figure 6**? 4. Finish with checking the answer by counting the numbers down the outside right; using that number (3), multiply by 7 (21) and add the remainder (4). The result should equal the dividend (25).
Evaluate	Distribute different division problems for students on notecards (adapting as needed). Have students use the quilts from their notecard problems to perform the partial quotient strategy, recording their process next to the quilt.

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(table 2 continued)

Lesson 3: Using a partial quotient with large numbers	
Essential question	**How can I be more efficient in my choices to divide larger numbers?**
Explore	1. Have students solve the problem $5\overline{)67}$ individually, using base-ten blocks and a Division Quilt. 2. Then have them perform the partial quotient strategy. 3. Ask them to consider the connections among the blocks, quilt, and the partial quotient strategy. 4. Have them discuss, in groups, connections among the blocks, quilt, and the partial quotient strategy and which strategy of the three they prefer.
Evaluate	Ask students to state one connection among the blocks, quilt, and the partial quotient strategy. Ask which strategy of the three they prefer.
Explain	1. Ask students to share what they discussed in their groups about connections among the blocks, quilt, and the partial quotient strategy. 2. Guide students through the partial quotients process (see **fig 7b**): The quotient shows that 67 ÷ 5 = 13 R 2. 3. Ask what the 10 to the outside stands for (which is 10 fives, or 50). 4. Ask again, "What connections can you see among the blocks, the quilt, and the partial quotient strategy? 5. Lead students through the model of the base-ten blocks. Because there are at least 5 rods, the tens rods can be distributed so they only have to "break apart" 1 tens rod to group the remaining 17 units. The other way is to exchange all 6 tens rods for 60 units. However, the sets will each contain 13 units, so to model the solution using base-ten blocks, the 13 units must be transformed by exchanging 10 of the units for 1 tens rod. 6. Connect back to the partial quotient process as to why choosing 50 (5 tens) is an efficient choice.
Evaluate	Pass out a pair of notecards to each individual student, with a division problem on each card. The problems should include a two-digit number divided by a one-digit number as well as a two-digit number divided by a two-digit number. Students solve the division problem using both a Division Quilt and the algorithm.