

INTERVENTION

Use anytime after Session 2.1.

Breaking Numbers Apart



MATH FOCUS POINTS

- Solving 2-digit by 1-digit multiplication problems
- Creating a story problem represented by a multiplication expression

Write 24×5 in vertical form. **Suppose I bought 5 cases of water. There are 24 bottles in a case. If I multiply 5×24 , I'll know how many bottles I bought.**

One way to make the problem easier is to break apart 24 into smaller numbers. What numbers could we use?

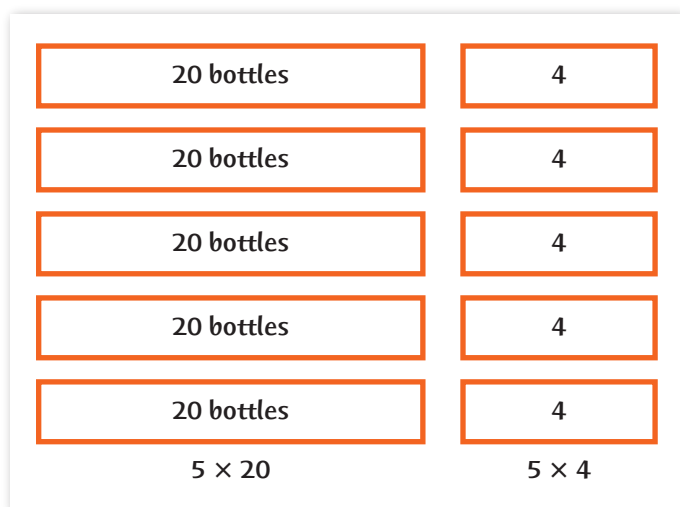
Students are likely to suggest $10 + 10 + 4$ and $20 + 4$.

Let's use $20 + 4$ so we have fewer numbers to multiply.

Draw the following diagram.



I'm buying 5 groups of 20 bottles and 5 groups of 4 bottles. I can draw it like this. Draw the following diagram.



So now there are two parts to the problem. Work with your partner to figure out 5×20 and 5×4 . Then add up your answers. How many bottles did I buy? Allow students to use other ways to break apart the problem, if desired.

Next, write 32×8 in vertical form. **Joshua bought 8 trays of pepper plants. Each tray has 32 plants. How can you use *breaking apart* to find how many pepper plants Joshua bought? Use a drawing to help you keep track of the problem.**

Encourage students to use multiples of 10. As they work, ask them what part of the problem they have solved and what they still have to solve.

Continue with problems such as 17×4 , 27×6 , and 41×7 .

Encourage students to create a story for each problem and draw pictures or an array to help.

DIFFERENTIATION

ENGLISH LANGUAGE LEARNERS Provide Sentence Stems Some students may need additional support to create a story for each problem and to answer questions about what number they will break apart and why. Provide stems, such as: *I will break apart [17] into _____ [10] and _____ [7] because _____.* If students respond by pointing, restate their responses using complete sentences and have them repeat after you.

ADDITIONAL RESOURCE

Math Words and Ideas Multiplication Strategies

