

2 Develop the Concept: Interactive



10–15 min

Interactive Learning

Overview Students identify and answer hidden questions to solve multiple-step problems.



Essential Question

How can you solve multiple-step problems?



Set the Purpose Today you will practice solving multiple-step problems by identifying hidden questions.

Connect If you were going to pack for three weeks at summer camp, what questions might you ask yourself when deciding what to pack? Deciding what to pack for a long stay is a multiple-step problem. [Sample answers: What will the weather be like? What activities will I be doing?]

Pose the Problem

Trey signed up for 120 hours of saxophone lessons. He meets with his music teacher for the same amount of time each Monday and Wednesday for 30 weeks. How long is each lesson? Solve this problem any way you choose.

If students are stumped, ask the hidden question, "How many lessons will there be altogether? [$2 \times 30 = 60$]" Have students share their strategies and solutions.

How many lessons will Trey get in all?
 $2 \times 30 = 60$
60 lessons
 $120 \div 60 = 2$
Each lesson is 2 hours long.

Whole-Class Participation

What information is given? [120 hours of lessons in 30 weeks, twice per week] **What does the problem ask?** [How long is each lesson?]. **What question(s) is not stated?** [Sample answers: How many hours of saxophone lessons does Trey take each week? How many lessons will Trey get in all?] **Find the answer to this question. Once you know that, you can easily find out the length of each lesson. How long is each lesson?** [2 hours]

How many hours of lessons does Trey take each week?
 $120 \div 30 = 4$
4 hours each week
 $4 \div 2 = 2$
Each lesson is 2 hours long.

Small-Group Interaction

Give students the following multiple-step problem: **Becky pays \$75 for 3 lessons. How much will she pay for 8 lessons? Write and answer a hidden question.** [How much does Becky pay for each lesson? \$25] **How can you find the amount for 8 lessons?** [Multiply \$25 by 8; Becky will pay \$200 for 8 lessons.]



A new trumpet costs \$675. Randy earned \$150 in two weeks. If he continues to save at the same rate, in how many weeks will he be able to buy the trumpet? [Randy makes \$75 a week; $\$675 - \$150 = \$525$; $\$525 \div \$75 = 7$; 7 more weeks.]



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Link to Investigations, Second Edition

Joint-Usage Master Plan
Blended Instruction (Plan 1):
Topic 5 and Unit 7