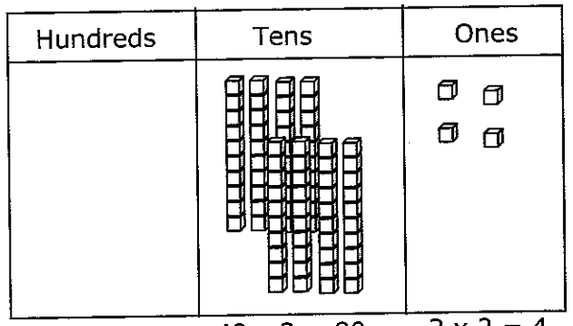
(2) Multiplication with Renaming Only in Tens (pp. 50-51)

Multiply a 2-digit number by 2, 3, 4, or 5 with renaming only in the tens.

In this lesson, the multiplication algorithm is introduced.

➤ Use base-10 blocks or number discs and a place value chart.

Put 42 on the chart.
Ask her to double both the tens and the ones. Ask her how many ones she has. Write 2 x 2 = 4 under the ones column of the place value chart.
Ask her how many tens she has. Write 40 x 2 = 80 under the tens column of the place value chart.
Show this on a written problem.
Tell her we usually just write the 8 for 8 tens next to the 4 in the tens column.

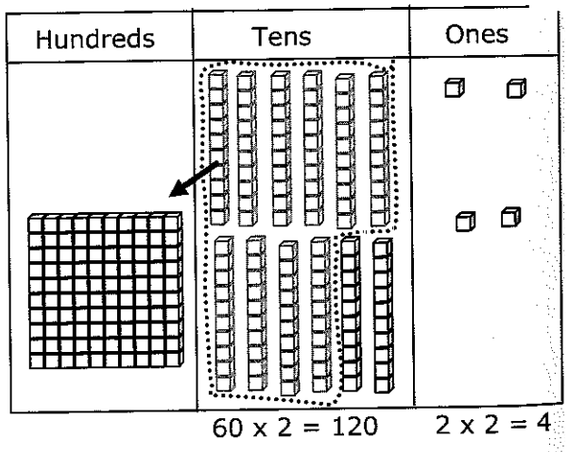



```
  42          42
 x 2         x 2
  4   =  2 x 2   84
 80   = 40 x 2
 84
```

Learning Task 2, p. 50

➤ Now do a problem where the tens are going to be renamed. She should multiply both the tens and ones on the chart before renaming. She must trade in 10 tens for 1 hundred.

```
  62          62
 x 2         x 2
  4   =  2 x 2   124
120   = 60 x 2
```



Learning Task 3. p. 51
Do other examples if necessary. Write the problem horizontally and have your student rewrite it vertically. The larger number should go on top.

Workbook Exercise 22

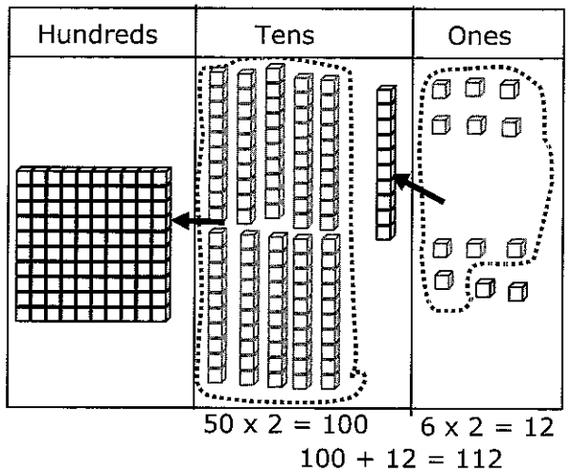
(3) Multiplication of a 2-Digit Number (pp. 51-52)

Multiply a 2-digit number by 2, 3, 4, or 5.

In this section, the student will have to multiply by the ones, rename the ones, multiply by the tens, and add any tens that have been renamed. Multiplication with renaming is often a difficult topic. Use concrete objects, such as base-10 blocks, extensively. Write out the steps, relating each step to the concrete example. You may want to allow your student to write the results of the multiplication below the line, and then show the "shorthand" standard method of writing the multiplication problem after your student understands the "longhand" method, as shown below.

➤ Use **base-10 blocks** or **number discs** and a **place value chart**.

Put 56 on the chart. Have your student double the tens and ones to get twice as many. Tell him we first find the total number of ones by multiplying the ones.
6 x 2 = 12. We find the total number of tens by multiplying the tens. 50 x 2 = 100. We can then find the total. 100 + 12 = 112



Write
56
x 2

Multiply the ones

```
  56
 x 2
 12   = 6 x 2
```

Multiply the tens

```
  56
 x 2
 12   = 6 x 2
100   = 50 x 2
```

Add

```
  56
 x 2
 12   = 6 x 2
+100   = 50 x 2
112
```

➤ Repeat with other examples if necessary. Once your student understands the procedure, show a "shorthand" method of writing the problem. Go through several problems step by step with the base-10 material, as shown on the next page, showing him that when he multiplies the tens, he is multiplying the tens of the larger number by the ones, and then adding the tens that come from renaming.

Mental Math 12

1. 50 ÷ 5 = _____
2. 12 ÷ 3 = _____
3. 24 ÷ 3 = _____
4. 20 ÷ 2 = _____
5. 20 ÷ 5 = _____
6. 8 ÷ 2 = _____
7. 24 ÷ 4 = _____
8. 10 ÷ 10 = _____
9. 15 ÷ 5 = _____
10. 18 ÷ 3 = _____
11. 4 ÷ 4 = _____
12. 27 ÷ 3 = _____
13. 14 ÷ 2 = _____
14. 36 ÷ 4 = _____
15. 12 ÷ 2 = _____
16. 16 ÷ 2 = _____
17. 40 ÷ 4 = _____
18. 21 ÷ 3 = _____
19. 6 ÷ 2 = _____
20. 5 ÷ 5 = _____
21. 10 ÷ 2 = _____
22. 25 ÷ 5 = _____
23. 28 ÷ 4 = _____
24. 15 ÷ 3 = _____
25. 30 ÷ 2 = _____
26. 20 ÷ 4 = _____
27. 70 ÷ 10 = _____
28. 8 ÷ 4 = _____
29. 40 ÷ 5 = _____
30. 3 ÷ 3 = _____

Mental Math 13

1. 35 ÷ 5 = _____
2. 7 x 3 = _____
3. 4 ÷ 2 = _____
4. 12 ÷ 4 = _____
5. 10 x 6 = _____
6. 80 ÷ 10 = _____
7. 5 x 7 = _____
8. 45 ÷ 5 = _____
9. 7 x 10 = _____
10. 4 x 9 = _____
11. 3 x 8 = _____
12. 9 x 2 = _____
13. 16 ÷ 4 = _____
14. 0 ÷ 2 = _____
15. 9 x 3 = _____
16. 8 x 4 = _____
17. 9 ÷ 3 = _____
18. 10 x 9 = _____
19. 6 x 4 = _____
20. 5 ÷ 5 = _____
21. 9 x 5 = _____
22. 18 ÷ 2 = _____
23. 0 x 3 = _____
24. 10 ÷ 5 = _____
25. 8 x 5 = _____
26. 30 ÷ 3 = _____
27. 6 x 5 = _____
28. 32 ÷ 4 = _____
29. 4 x 7 = _____
30. 100 ÷ 10 = _____