

Teaching and Practicing Multiplication Facts

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Parents and teachers often ask me to help students learn the multiplication tables. With older students, they may have learned the facts but apparently they didn't stick. If possible, someone needs to tutor them with specific focus on increasing math fluency. My best experience in working with similar issues was to use the chalkboard, whiteboard and finally paper. Direct the student to write the multiples of 8, for example. The student writes 8, 16, 24, 32, 40, etc., up to less than 120. We work to increase the speed of this progress.

We also use a 100's chart for a student to point to the multiples for additional practice. When he/she is fairly comfortable, we add the next step. With the multiples in front of the student, we ask, "What is 4 times 8?" The student goes to the fourth multiple and states the answer. We work to increase the fluency of the process. We will then remove some of the multiples and draw a line. This forces the student to remember that multiple. Using flashcards, we work completely in his head for all the multiples. Finally, we work on the traditional math facts, but we sequence them in a specific order so that a student absolutely knows one set before we add in the next set, rather than working on all of them at one time.

The sequence of development is as follows:

- Ones
- Doubles (twos)
- Fives
- Tens (working from ones and adding a zero)
- Fours (double the doubles)
- Threes
- Sixes (double the threes)
- Eights (double the fours)
- Nines (one multiple less than ten) E.g., 8×9 must be less than 80, therefore in the 70s. The two digits then add to 9. Therefore, $7 + 2 = 9$ and the answer is 72.
- Review all squares, including 7×7 .
- Practice the sevens, although all of them have been learned within the other multiples. However, this set is the most difficult to learn.

- Do lots of practice with ones through tens.
- Include various kinds of practice. E.g., standard $6 \times 3 = \underline{\quad}$, $3 \times 6 = \underline{\quad}$, then 3 times what equals 18 ($3 \times \underline{\quad} = 18$), etc.
- Work on these from a visual memory perspective. Using flashcards, show one for only 2 seconds then put it down. The student must capture the problem visually then work inside his/her mind to read then answer the problem. Work with only about 20 cards at a time until they are completely mastered. As the student becomes fluent on one fact, remove it and then add in another one needing practice. With younger students, begin with flashcards that have the answers. Show for no more than two seconds. The student concentrates on the complete number sentence then repeats it after you lay it down.
- Finally, add the elevens (one more than ten) then twelves (ten plus a double).

I know this is a lot of information, but it will work in a relatively short time if addressed intensely each day for about 15 to 20 minutes.

Blessings!