**Dad's Eight Simple Rules for Mastering the Times Tables (0-10)**

**Rule #1: You Times Me is the Same as Me Times You**

This rule, more formally known as the reflexive property of multiplication, just means that A x B = B x A. If you can teach your child that 6x7=42, they should be able to remember that 7x6=42 as well. This should be the first question you ask if your child is stuck on a problem. If your child doesn't know the answer to a multiplication math fact, swap the multiplicands and ask the question again. When you factor in the effect of perfect squares, this one rule cuts the number of facts we need to memorize almost in half to 55.

**Rule #2: Any Number Times One is that Number.**

If multiplication is just instructions for addition, multiplying a number by one just means to add a single instance of that number up. The result is always that number. That takes 10 problems out of our remaining list of facts, dropping us already to 45. See how fast we're moving?

**Rule #3: To Multiply by Ten, Attach a Zero.**

Even if concepts about place value and shifting decimal places are new at this point, memorizing that multiplication by ten means just attaching a zero to the number is an easy rule to remember. The zero on the end of the ten should serve as a trigger, "Ten ends in zero. What do you attach to the other number?" Given the focus on reusing addition facts in our multiplication odyssey, I recommend avoiding the phrase "Add a zero" or you may garner some initial confusion. Multiplication by ten removes nine more problems from the grid and gives us 36.

**Rule #4: To Multiply by Two, Double the Number**

This rule leverages facts learned during addition. 2x7 = 7+7 = 14. All of these facts should already be memorized, but even if they're not they're still in the range where counting on fingers and toes gets rapidly to a solution. Because we already crossed off 2x1 for Rule #2 and 2x10 for Rule #3, we only get to knock eight more off our list, but that still drops us to 28.

**Rule #5: Multiplying by Four is Doubling Twice (Double-Double Rule)**

When my daughter pauses on a times-four problem, all I have to do is say "Double-Double" and the answer comes right back. 4x6 = 6+6+6+6 = 12 + 12 = 24. For numbers five and lower, the four double-double rule will work with addition math facts and should be performed in memory. If your child can do simple two digit addition without regrouping in memory, six and seven work as well. It'll take a while, but eventually 4x8 and 4x9 aren't too hard but you may find those facts get memorized before "carry the one" starts happening mentally. However you get there, we get to cross off seven more facts (skipping 4x1, 4x2 and 4x10 from the rules above), which puts us at 21 left!

**Rule #6: Multiplying by Five is Just Counting by Five**

Your child should already know how to count by fives by the time they're in multiplication land, so a quick short-cut for solving a 5 times problem is just to skip-count by fives up to the number. There's other more complex strategies for fives (if the number is even, divide it by two and add a zero, so 8x5 = (8/2) \* 10 = 40) but these are typically a bit complex when making a first pass here. The "Count by Fives" rule drops us down to 16 remaining facts.

**Rule #7: The Nine Rule - Tens is Number Minus One, Ones is Nine Minus Tens**

When you multiply a number by nine, the sum of the digits of the result is always a multiple of nine. For the basic math facts, the sum of the digits IS nine, and in fact it has some other interesting properties. The tens place value is always one less than the number being multiplied, and because of the nines rule the ones place is always the nine minus the value in the ten's place. The basic script for learning this rule goes something like this: "Multiplying by nine? Okay, what's one minus the other number? That's the ten's digit. Okay, what number plus that equals nine? That's the one's digit." Again, this strategy just falls back on basic addition facts, and it cuts our total number of math facts to memorize down to 10.

**Rule #8: Memorize the Ten Remaining Facts**

The first seven rules cut our list of facts down from 100 to 10, so all we need to do is memorize the 10 multiplication facts to have the whole table down. We eliminated any number times 0, 1, 2, 4, 5 and 9. So here's the multiplication facts that are left with a few rhymes to help remember them:

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| 3 x 3 = 9  |
| Three times three is so fine, three times three is nine. |
| 3 x 6 = 18 | Three times my bird ate six beans, three times six is eighteen. |
| 3 x 7 = 21 | Three candies each for seven days, that would be fun, three times seven is twenty-one. |
| 3 x 8 = 24 | Three boys on skates fell on the floor, three times eight is twenty-four. |
| 6 x 6 = 36 | Six dogs with six sticks, six times six is thirty-six. |
| 6 x 7 = 42 | Sticks from heaven, stuck in glue, six times seven is forty-two! |
| 6 x 8 = 48 | What do we appreciate? Six times eight is forty-eight!Flight 6 Times 8! Don't be late! Leaving at gate 48! |
| 7 x 7 = 49 | Seven kids in seven lines, add 'em, up its forty-nine. |
| 7 x 8 = 56 | Five - six - seven - eight, Fifty-six is seven times eight.7 packs of gum, each with 8 sticks. Can you chew fifty-six? |
| 8 x 8 = 64 | Eight times eight is sixty-four, close your mouth and shut the door!Had two eights, dropped them on the floor, picked them up, had sixty-four. |

The first four facts are all from the three-times table, and they're fairly easy to calculate using addition or find by skip-counting by threes. The remaining six are the nasty ones. If you really look back, you can probably remember struggling with one or more of the remaining ones as a kid. This is a link to practice worksheets specifically for the 'Rule #8' facts here.

So that's it, multiplication in eight rules built on top of basic addition. If we count rule eight as ten facts, it really means the whole multiplication table is wrapped up in only seventeen peices of knowledge. Easy!

Found on <http://www.dadsworksheets.com/v1/Strategies/eight_rules_of_multiplication.html>