Math Tips 1

 I spent the majority of my life traveling and meeting people from all kinds of background. Around 20 years ago, I became suddenly, out of sheer hazard, a well-know math tutor in town. I remember my first student, a 5th grader. I immediately identified her main problem: she didn’t know her times tables. I told her so. She looked me in the eyes and asked me: “So, how can I memorize them?” She really got me. I thought back on my own childhood, and all I could remember was, repeat and repeat till you knew it. How else?

 That episode started me on the search for shortcuts. Amazingly, I found many ways to help students scaffold their math gaps. Here is a rather well-known one: how to help you memorize the table of nine:

 Hold your two palms open in front of you. Press them close to each other. Say: “9 times 1 is…” and bend down your left thumb. What do you see? Nine fingers left. Say: “9!”

 Now put the left thumb back up. Say: “9 times 2 is… “ and bend down your left index finger. What do you see? One thumb and 8 fingers left. Say: “18!” Do the same for the rest of the number 3 through 10. Works every time! Try for example, “9 times 7…” Bend down your right 4th finger. What do you see? Six fingers on the left, and 3 fingers on the right: “… 63!” As for “9 times 10…” you would bend down the right thumb and get… 9 fingers on the left and none on the right: “… 90!”

 The next tip, used for multiplying the large numbers from 6 to 9, is from a schoolmaster in village in Indonesia. It works. I don’t know why or how and am still trying to figure this out, but it does work!

 You need to multiply say, 7 times 8. Again, open your two hands and place them, palms facing you, close to each other. You want to put 7 on your left hand and 8 on your right hand. Since you only have 5 fingers on each hand, that’s not possible. So, we are going to imagine you have five somewhere and these are the remaining fingers. Say, “5…” then bend down your left little finger and say, “6”. Then bend down your left 4th finger and say, “7”. You now have 7 on your left hand. Now say, “6” and bend down your right little finger. Then say, “7” and bend down your right 4th finger. Then say “8” and bend down your right middle finger. You now have 8 on your right hand.

 Make sure to place both hands next to each other. What do you see? How many fingers are down? Five. Say, “fifty…” Now look at the remaining standing fingers. There are 3 on the left and 2 on the right. Multiply them by each other. What do you get? “3 X 2 = 6”. So you say, “…6”. Answer: “56”.

 You can try another one. Say, 7X7. Left hand: 6, 7. Little finger and 4th finger down. Right hand: 6,7. Little finger and 4th finger down. Four fingers down, that’s “forty…”. Three left fingers up times 3 right fingers up, that’s 9. Answer: “49”.

 Attention: The only two facts that need some help are 6X6 and 6X7. Try them. Your answers will be: “20, 16” and “30, 12”. But you can immediately see that 20 + 16 are 36, and that 30 + 12 are 42. These are again the correct answers. It works again! However, the whole point of learning this trick was to help kids memorize the tables of 6 to 9, and this two-step trick might be too hard on them. Well, just memorize them then. That’s only two facts to memorize, instead of 11!