

First principles of Multisensory Structured Language Math:

1. Teach the language of _____.
2. Build it, _____ it, _____ it.

First problem, horse race:

Lightning Time in seconds	Distance in yards
1	
2	
3	
4	
5	
10	
100	

Plodder Time in seconds	Distance in yards
1	
2	
3	
4	
5	
10	
100	

Second problem: sample graphic organizer

Distance	Rate	Time
	50 miles per hour	3 hours
400 miles	20 miles per hour	
1500 miles		3 hours

Distance = Rate times Time. $D = RT$. Work toward $D/R = T$, $D/T = R$

- More Multisensory Math principles:
3. Use hand motions and structured language. Make it memorable.
 4. Explicit instruction: tiny steps.
 5. Coding: using color, parentheses, and acronyms to keep track of processes.
 6. Use graphic organizers.

- Tips:
- 1) Keep arithmetic simple until concepts are well practiced and mastered. Multiply by 2s & 5s.
 - 2) No unit conversions while teaching a concept, i.e., don't change from feet to miles, minutes to hours
 - 3) Never teach a concept a problem you haven't already solved.
 - 4) Student creates math manual: pages tell & showhow to solve each type of problem, once mastered.

Three other types of distance, rate, and time problems:

2. Two move in opposite directions. E.g.: Car A goes north at 20 MPH, Car B goes south at 30 MPH.

3. Collision coming: two objects meeting head on. Two swimmers in same lane of a 100 meter pool:

4. Up and back: One object moving against the current and with the current. $B+C$ and $B-C$. 2 different rates, same distance, so different times.

Resources: More at <http://LearnDifferently.com>

Marilyn Zecher: <http://www.multisensorymath.com>

Her distance learning class for parents and teachers: http://asdec.org/multisensory_math_1_distance

Chris Woodin, math department chair, at the Landmark School, MA. Worksheets, videos:

<http://www.landmarkschool.org/resources/woodinmath/word-problems>