Times and Time Again

A Program That Eliminates Student Calculation Errors of Multiplication Facts in Numerical Operations

Virginia Pong

Also by Virginia Pong

Writing: *A Sixth Grade Program*

Writing: The Final Step, *Creating An Attractive Presentation*

Waiting for Waif Educational Supplement
An Educational Supplement to the Children's Book
"Waiting for Waif" by A. V. Pong

Times and Times Again
A Program That Eliminates Student Calculation Errors
of Multiplication Facts in Numerical Operations

ISBN-13: 978-1539826361
ISBN-10: 139826368

Table of Contents

Times and Time Again

Introduction

The Problem

Students entering sixth grade were too slow on two and three digit problems of multiplication and division and made too many errors in calculation, not from a misunderstanding of the process but rather from simple errors of wrong multiplication. By the time they reached fraction and mixed number calculations they were truly in trouble.

Under the school district's curriculum, elementary students were introduced to multiplication through the "fives" in second grade, through the "nines" in third grade, and expected to have mastery in fifth grade. Yet somehow this mastery rarely seemed to materialize.

Seventh grade teachers had commented they would be delighted if their incoming students would simply arrive fully able and competent to add, subtract, multiply and divide whole numbers, decimals, and fractions. Then, without having to go back and re-teach these basic processes, they could move ahead to the concepts of ratios, percents, basic algebra and geometry.

The Solution

Enter the *Times and Time Again* program to establish true student mastery of the multiplication facts through twelve times twelve. The "twelves" were selected to facilitate calculations of feet/inches and dozens/gross.

"You can't do that! That's drill and kill!" The initiation of the *Times and Time Again* program brought the same response from every intermediate grade teacher in the school except the special education teacher. They went on to explain, "The students will get bored. They won't like it."

However, it did not turn out that way. The students loved it! They even looked forward to it! When a schedule change made it necessary to skip the drill, they felt deprived.

Unfortunately, perhaps the biggest problem, if one can call it that, in implementing the *Times and Time Again* program is its simplicity. It may seem that this system is just too easy to be so effective and than that it can, in fact, so powerfully motivate the students from within themselves to strive for a better score. The one external reward is the pizza list which is truly of only a very secondary importance to the students.

Why Use *Times and Time Again*?

When administered the first day of school, the test graphically demonstrations the lack of student mastery over the times tables, for the teacher, the parents, and especially for the students themselves. The students are not prepared for the test and it gives a true picture of how well they actually know their facts. Looking at their scores on that first day, they were seriously unable to argue that they really didn't need the review. Classes consisted of thirty-two to thirty-five students at all levels of achievement, including special education/resource students, the gifted and talented education students, and all the students in between. Their first day text scores regularly ranged for five to forty-two correct answers out of one hundred multiplication facts.

Using a specific time frame motivated the students far more toward better achievement than the single goal of just putting down answers on a worksheet. They now had two immediately measurable goals to challenge them: 100% correct answers and finished in two minutes or less. Feedback of their score and time was immediate.

Never are the students allowed to compete with each other. Emphasis is always placed only on improving their previous score. As the students see their improvement day by day, the double goal that had once seemed almost out of reach begins to look possible. When the first student reaches the goal time, every student truly realizes it is achievable and they are motivated even more with an attitude of, "If he can do it, I can do it."

Every student is fully engaged with a vested interest during each practice period for the entire practice time, which while intense, isn't very long. *Times and Times Again* is not a classroom game such as "spelling baseball," "spelling bees," or "around the world" in which most of the students are off task or bored.

If the period for math is scheduled immediately after a recess, students will settle down immediately as the fact sheets are passed out. They keep track of the day of the week and not only expect but look forward to their practice session.

Elementary school parent/teacher conferences are typically scheduled several weeks after the beginning of school. File that first day test, the second test with a longer time, a three week test, and a test from the week of the conferences in the students' folders to share at conference time. It makes an impressive display of visible student improvement.

Last but not least, standardized collegiate testing, such as community college placement tests and the Graduate Record Exam, does not allow the use of calculators or watches. A local college administers its academic placement test in a closed room surrounded with windows through which all work cubicles are viewable. Cell phones, watches, handbags, and backpacks must all be checked in before entering the testing area…and, the problems do involve multiplication and division with two and three digit numbers.

The Result

As they use the *Times and Time Again* program students make steady, visible, and measureable progress--improvement about which they are immensely pleased in their sense of accomplishment. Multiplication and division become much easier and faster for the students. Fractions and mixed numbers are no longer hindered by errors in multiplying and the students become free to concentrate on the process involved in the particular problem.

The Goal

The double goal is clear and simple to the students: 100% in two minutes or less. Each practice sheet has ten rows of ten problems each for a total of 100 problems. Their score is simply the number of correct answers which then becomes a percent. Easy to score. Easy to understand. Easy to see improvement.

If *Times and Time Again* is used in the lower grades, adjust the time goal and the number of problems to reflect grade level expectations and student physical ability to write the answers quickly. Fifth grade will need only a little modification.

A simple, easy to offer reward is a "pizza list" kept in one corner of the white board (chalkboard) in the classroom. The first time a student successfully scores 100% in two minutes or less, his name goes on the list and remains there for the rest of the semester. At the end of the semester, order a pizza delivery for an in the classroom pizza lunch. The pizza list starts over at the beginning of the second semester. If by chance the list gets erased, the students always know whose names were there.

From the Author

Unfortunately the English language lacks a personal pronoun without gender. The author views "it" as an inappropriate way to reference a person and the term he/she a poor and awkward substitute. Therefore, please understand that for the sake of simplicity "he" has been used in *Times and Time Again* as a generic reference to both a male or female student and in no way reflects any preference or opinion of either one.

Times and Time Again

The How-To

The Method

Handwriting. This is not the time to be picky about the clarity of student handwriting. The students are writing as fast as they can and are totally focused on the problems. Answers need only be legible enough to reasonably interpret, especially as the students correct their own papers. This also removes the necessity for anyone to know another student's score which, at least at the beginning, is hardly a matter of pride.

Reframe Negativity. When a student makes a negative comment regarding his performance, reframe the perceived defeat into a new success or opportunity. Examples:

"But, I only missed one…," becomes, "Then you only have one more to learn."

"We didn't learn our 12's," becomes, "Well, now you get to learn them." Actually they already know the lower 12's and the 11's quickly become easy.

"I know that one and I missed it anyway," becomes, "You'll get it next time."

Time Limit. Day One is two minutes. The second practice is four minutes. When enough students are finishing all 100 problems before the four minutes (the class becomes restless), reduce the time to three minutes—but do let them know ahead of time. Tell them they are doing so well and getting so good they will only need three minutes for practice.

Practice Sheets. There are three practice sheets, all have the same 100 problems but each sheet is in a different order. This prevents the students from memorizing the order of the answers. Color code the three sheets by copying one sheet on white paper, one on pink, and one on light yellow. Blue and green copy paper are more difficult to read. Use each color once during the week. Do not use the same color twice in a row. It may be easier to remember which color to use if one color is assigned to each practice day.

When to Practice. Do the drill three times a week: Monday, Wednesday, and Friday. The students need to skip the in between days. Five times a week is too much. On short school weeks of three or four days, drop one of the sessions and only do two days.

Who Practices. Everyone practices every session until the first student successfully scores 100% in two minutes or less. From then on, everyone always tests on Monday but students who scored 100% on Monday have their choice as to whether to practice on Wednesday and Friday of the same week. Some choose to practice, some prefer to sit and feel good about themselves. Whichever they choose, they will practice again come Monday.

Success. The first student in the class to finish all problems within the time limit will totally disrupt the class with excitement. However, not to fear. All the other students will look up to see who it is, then very quickly put their heads down and work furiously. They have just seen that the goal is indeed, achievable and work even more diligently on their own scores. One student was so excited he jumped up out of his seat with a loud exclamation and then realizing

what he had done, quickly sat down. A smile from his teacher let him know he was not in trouble. The next students to meet the goal are rarely as disruptive.

Once in a while a first two minute practice will only be 99%, but within another time or two it becomes 100%. A reassurance to the student of, "Next time you'll get it," smoothes over any disappointment.

Caution. If you plan to drill students on addition facts, be sure to do so to mastery level *before* introducing the multiplication practice as it is overly difficult for them to switch back and forth between the two processes. The students get focused in one mode and it's best to stay there.

Classroom Details

The First Day. Be sure to give the test the first day of school. If the first day is Tuesday, then repeat on Thursday and go Monday, Wednesday, Friday the next week. Schedule it in as the first thing to do during the math period. The students are fresh from vacation and the shock value is needed. This will take the longest time to administer because everything has to be thoroughly explained. You will need a stopwatch with minutes and seconds for this. If you use a smart phone, be SURE you don't accidentally stop it by inadvertently touching the screen. That will mess up the whole thing! A regular stop watch or timer is much less foolproof and there are a number of inexpensive digital timers easily available.

Students are so focused on the task at hand that copying an answer from someone else is not a problem. They will need two pencils ready to go, two in case one breaks or malfunctions.

Preparing for the Test

1. Explain the content of the paper before handing them out. 100 multiplication fact problems in 10 rows of ten problems each.
2. It is a timed test. They will have 2 minutes to write the answers. Neat writing is not important. You will tell them when to start. They will then turn the papers over and start writing answers. (The first day's test could be considered as an assessment test.)
3. They are to do as many of the problems as they can in any order they wish…meaning they can skip around, go across, go down… (You may wish to briefly hold up a sheet so they can glimpse, but only a glimpse, what it looks like.)
4. If they don't know an answer, leave it and go on to the next one.
5. Do not waste time erasing an answer. Either write over the first answer, or scribble it out and rewrite.
6. When you say stop, they are to stop and put their pencils down on the desk.
7. Only correct answers will be counted.
8. There is a place for name, date, time and score at the top. Do NOT fill it in until AFTER the test is finished and corrected.
9. Ask for questions and check their understanding.
10. Hand out the practice sheets placing each paper face down on the desk. (The next time the class does the sheet, passing them back from the front will work as the students will know what to expect and how it works.)
11. Ask if they are ready. Then it's ready, set, go (or start).
12. At exactly two minutes, tell the students to stop and put down their pencils.

Correcting Their Papers. The class is now ready to correct their papers. As the students are correcting, glance around to get an idea of how many and how few answers the students have on their papers.

13. Have them take out a pen.
14. Tell them they are to correct their own papers. You expect them to be honest. Remind them their score will not be a part of their grade, so there is no need to fudge (cheat).
15. Instruct them that as you give an answer they are to use their pen (any readable color) to mark a "C" over every correct answer. Over every incorrect or blank answer they are to put either and "X" or forward slash " / ". (As this exercise is done more often, most students use the forward slash because it's less effort and faster.)
16. Tell them you will read one row at a time going across the page. You will read only the answers. "Row 1. 72…, 55…, 27…" Be sure to pause after each answer to give the student time to mark his answer. Then, "Row 2. 44…, 148…, 15…" And then, "Row 3…" Read all 10 rows because some students may skip around and need answers for the last row.
17. They are to now count the number of correct answers and write it at the top on the line after the word "Score."
18. On the line after the word "Time" they are to write "2:00" (for 2 minutes).
19. Then and only then are they to write in their names and date at the top of the sheet.
20. Have them memorize their score and then turn their papers face down on the desk.

Discussion

21. Explain that while they may not have gotten very many correct this time, they WILL get better with practice. The next practice will be…
22. They will do this every Monday, Wednesday, and Friday, but… starting next time they will have four minutes to do the sheet.
23. Their first goal is to improve their score, to do better than last time.
24. The ultimate goal is 100% in 2 minutes or less. Let them know the record (set by an "average" student, in other words not "gifted") is 1:27.
25. Ask for a show of hands for how many got at least 5 correct. They may laugh but remember you may have a student(s) who will have a total score of 5 or 6. Hands down in between removes the embarrassment for a student who has to put his hand down at 10. Students do look around to see how many hands are up.
26. Tell them to put their hands down and then ask for 10 right. Then 20. Then 30, 40… until there are no hands.
27. Ask them if they all have room for improvement, to which they will quickly agree.

Now is the time to reassure the students they will get better, their number of correct answers will increase and they will get faster.

The Next Practice Day.

1. Review the procedure in less detail.
2. Pass out the practice sheets, probably no longer individually.
3. Remind them they have 4 minutes this time instead of only 2 minutes.
4. Tell them you will give them a 2 minute warning (more like a time check).
5. If anybody finishes before you tell them to stop, he is to raise his hand, say nothing, and write the time you call out, such as 3:58, in the "Time" blank at the top of the page. Then he is to sit quietly and exercise patience while the other students finish working or time is called.

The Following Practice Days. At some point after two or three months, enough students (usually about half) will finish within the 4 minute time which begins to give a restless air to the room and make it more difficult for the others to finish. As this happens, reduce the time to 3:30 and then to 3:00 where it can stay for the rest of the school year.

Further Comments. A few other comments are worth mentioning and will help to facilitate the use of *Times and Time Again*.

Reading the Answers. Answers can be read from three sources: an answer key, an unmarked student practice sheet, or on occasion a completed student sheet.

1. Many teachers are more confident in reading answers from an answer key instead of from a problem sheet with no answers, especially in front of a class. For this reason answer keys are included in the appendix section of this book. A student teacher doing *Times and Times Again* for the first time was terrified at the thought of reading the answers from anything but an answer key.
2. Some teachers find it good practice to read from an unmarked student sheet.
3. The first time any student thinks he has met the goal and qualified for the pizza list, the teacher may use that paper as the answer key. But, always ask permission from the qualifying student, and ask the class to correct an error if they hear one. If two or more students think they have qualified in the same session, exchanging papers with another student is appropriate, preferably one in the front where the teacher can see. If perchance the student is not successful, do be sure to encourage as truly he is almost there and will be shortly.

The First 2 Minute Score, or what to expect when the first student gets 2 minutes or less. As mentioned earlier, it will happen and it will be disruptive…but only for a moment so not to fear. The other students will look up to see who it is, then very quickly put their heads down and work furiously. They have just witnessed that the goal is indeed, achievable and will work even more diligently on their own scores. One student was so excited he jumped up out of his seat with a loud exclamation and then realizing what he had done, quickly sat down. A smile from his teacher let him know he was not in trouble. The next students to meet the goal are rarely as disruptive.

Once in a while a first two minute practice will only be 99%, but within another time or two it becomes 100%. A reassurance to the student of, "Next time you'll get it," smoothes over any disappointment.

When to Save for the Student's Folder of Work. Elementary school parent/teacher conferences are typically scheduled several weeks after the beginning of school. File that first day test, the second day test with a longer time, a three week test, and a test from the week of the conferences in the students' folders to share at conference time. It makes and impressive display of visible improvement visible student improvement. After conferences, save and file once a month. Collect all papers, give credit for participation if you like, stamp or mark with the teacher sign of approval that the paper has been looked at, and return whenever student work is regularly returned.

At home

When *Times and Time Again* is used at home the student will often want to immediately try again to improve his score. NO is the appropriate answer because once a day is better as there is little if any improvement the second time which opens the way to disappointment and discouragement. If the student needs additional practice it is better to use one of the following methods in between *Times and Time Again* sessions.

Used in the classroom environment, the four minute limit works well. Used at home, there is another option in which the time necessary for the student to complete all 100 problems is recorded. The number correct is also recorded. This option has the advantage of practicing all 100 problems every time, but it does take longer, so be sure to stress that accuracy is preferred over speed. The speed will automatically come with consistent practice.

Other Practice Methods

Flash cards. Flashcards can be done individually by the student but the session is more enjoyable and on task when done with an adult or parent. It does make a difference. The process remains the same whether for math facts, content area matter or collegiate study, although older students may work well on their own.

1. The adult holds the stack of cards and presents one at a time to the student. The first time through the stack, any card for which student gives an immediate correct answer is handed to the student to hold or pile in front of him. Any card for which the answer is hesitant or incorrect goes in a pile in front of the parent or helper.
2. For the second time through, shuffle only the pile in front of the parent. Then repeat as for the first time.
3. For the third time through, shuffle remaining pile in front of parent and repeat as for the first time.

This process gives the most practice to the unfamiliar cards and serves as a refresher on the better known facts so they are not forgotten. A community service high school volunteer used this flash card method with two third grade boys who needed extra help in this area. Being the boys they were, a careful schedule had to be kept or they would fight over whose turn it was to work with the helper.

Flashcards can be purchased online or at retail stores; however, they are simple to make using 3" x 5" index cards, preferably plain without lines. The cards are thick enough to prevent the writing on one side from showing through on the other side. They can be marked on both sides—the math problem on one side and the problem with the answer on the reverse side. Cutting a small triangle off the same corner of each card makes it easy to sort the cards with all the answers on the same side.

The child's age and how well child knows the math facts will determine which method and which facts should be used. Starting with lower facts such as 2's through 5's establishes a base before moving up to the higher numbers and helps to prevent overwhelming the student. It also builds success and confidence. By going all the way up to 12 on each set, the student will have very few facts left to learn by the time he finishes the 9's. For example on the 2's, go from 2 x 2 to 2 x 12. Zero and 1's are not usually a problem, but if they are, then include them in practice.

Comment: It is not uncommon for a student to be reluctant to give up his stash of cards he has gained during the session. A reminder that next time he will have even more builds anticipation for the next session.

Practice While Doing Other Things. Engaging a student in practice while doing other things such driving or cooking helps a busy parent and a student in need of practice.

1. Count by twos, threes, fours… up to the 12 factor.
2. Count backwards by twos, threes, fours…starting with the 12 factor. For example: 24, 22, 20, 18… An entire class can do this counting session together.
3. Oral quizzing. Give random problems from the twos until the answers are quick. Move on to the threes, fours… Doing only the threes or fours at one time makes it easier to remember to include all the facts.
4. Computer or online activities work with some students and can be done without adult assistance at home or on a cell phone or tablet; however these lack the interaction and approval of the adult. As with any electronic device, adult monitoring is advisable.

Closing Time

Any practice whether at school or at home, in athletics or music or multiplication facts or something else will require a certain amount of time and, considering the busy schedules of today, that time may seem hard to find on a consistent bases. However, keep in mind that once the multiplication facts are learned at a true mastery level, the student will never forget them just as a person does not forget how to ride a bicycle or swim; so do consider your time allocated to assisting in the process of learning the multiplication facts as an investment in the student.

Wishing you and your students the very best of success,

Virginia Pong

Name _____ Time _____ Score _____

Date _____

8 x 9	5 x 11	9 x 3	6 x 7	3 x 4	7 x 11	4 x 6	12 x 11	2 x 8	11 x 11
11 x 4	12 x 12	3 x 5	9 x 2	4 x 11	8 x 3	6 x 6	5 x 8	7 x 12	2 x 5
3 x 12	9 x 7	6 x 5	4 x 12	8 x 5	11 x 5	5 x 7	12 x 2	2 x 4	7 x 3
2 x 6	11 x 8	8 x 2	3 x 3	7 x 2	5 x 9	12 x 3	4 x 7	6 x 8	9 x 12
9 x 4	4 x 8	11 x 9	5 x 6	8 x 4	3 x 11	6 x 4	2 x 9	12 x 4	7 x 4
4 x 4	12 x 5	3 x 6	9 x 5	6 x 9	2 x 11	7 x 5	8 x 7	5 x 5	11 x 6
6 x 2	7 x 7	12 x 6	4 x 5	8 x 6	11 x 7	3 x 9	5 x 4	9 x 9	2 x 7
3 x 7	8 x 8	5 x 12	12 x 9	4 x 2	9 x 8	7 x 6	11 x 3	2 x 3	6 x 11
5 x 3	7 x 9	8 x 12	3 x 2	12 x 8	2 x 12	9 x 6	6 x 12	4 x 9	11 x 2
9 x 11	3 x 8	6 x 3	12 x 7	4 x 3	11 x 12	5 x 2	8 x 11	2 x 2	7 x 8

_____ ANSWER KEY _____

8 x 9 72	5 x 11 55	9 x 3 27	6 x 7 42	3 x 4 12	7 x 11 77	4 x 6 24	12 x 11 132	2 x 8 16	11 x 11 121
11 x 4 44	12 x 12 144	3 x 5 15	9 x 2 18	4 x 11 44	8 x 3 24	6 x 6 36	5 x 8 40	7 x 12 84	2 x 5 10
3 x 12 36	9 x 7 63	6 x 5 30	4 x 12 48	8 x 5 40	11 x 5 55	5 x 7 35	12 x 2 24	2 x 4 8	7 x 3 21
2 x 6 12	11 x 8 88	8 x 2 16	3 x 3 9	7 x 2 14	5 x 9 45	12 x 3 36	4 x 7 28	6 x 8 48	9 x 12 108
9 x 4 36	4 x 8 32	11 x 9 99	5 x 6 30	8 x 4 32	3 x 11 33	6 x 4 24	2 x 9 18	12 x 4 48	7 x 4 28
4 x 4 16	12 x 5 60	3 x 6 18	9 x 5 45	6 x 9 54	2 x 11 22	7 x 5 35	8 x 7 56	5 x 5 25	11 x 6 66
6 x 2 12	7 x 7 49	12 x 6 72	4 x 5 20	8 x 6 48	11 x 7 77	3 x 9 27	5 x 4 20	9 x 9 81	2 x 7 14
3 x 7 21	8 x 8 64	5 x 12 60	12 x 9 108	4 x 2 8	9 x 8 72	7 x 6 42	11 x 3 33	2 x 3 6	6 x 11 66
5 x 3 15	7 x 9 63	8 x 12 96	3 x 2 6	12 x 8 96	2 x 12 24	9 x 6 54	6 x 12 72	4 x 9 36	11 x 2 22
9 x 11 99	3 x 8 24	6 x 3 18	12 x 7 84	4 x 3 12	11 x 12 132	5 x 2 10	8 x 11 88	2 x 2 4	7 x 8 56

Name _____ Time _____ Score _____

Date _____

6 x 2	7 x 9	5 x 11	2 x 4	4 x 11	2 x 9	3 x 8	7 x 6	6 x 9	9 x 12
3 x 2	7 x 7	9 x 4	12 x 2	8 x 9	6 x 4	8 x 11	3 x 7	4 x 4	2 x 6
2 x 12	12 x 6	4 x 8	7 x 3	9 x 3	8 x 3	5 x 2	11 x 3	8 x 7	12 x 3
6 x 12	4 x 5	12 x 4	5 x 7	11 x 11	2 x 5	2 x 2	2 x 3	7 x 5	8 x 2
11 x 2	8 x 6	11 x 9	6 x 5	6 x 7	5 x 8	4 x 3	8 x 8	12 x 5	5 x 9
5 x 3	11 x 7	5 x 6	9 x 7	3 x 4	3 x 5	11 x 12	5 x 12	3 x 6	11 x 8
8 x 12	3 x 9	7 x 4	11 x 5	12 x 11	12 x 12	9 x 5	6 x 11	12 x 7	7 x 2
12 x 8	5 x 4	8 x 4	8 x 5	4 x 6	11 x 4	7 x 8	4 x 2	11 x 6	4 x 7
9 x 6	9 x 9	3 x 11	4 x 12	2 x 8	7 x 12	9 x 11	9 x 8	5 x 5	6 x 8
4 x 9	2 x 7	6 x 6	9 x 2	7 x 11	3 x 12	6 x 3	12 x 9	2 x 11	3 x 3

_____ ANSWER KEY _____

6 x 2 12	7 x 9 63	5 x 11 55	2 x 4 8	4 x 11 44	2 x 9 18	3 x 8 24	7 x 6 42	6 x 9 54	9 x 12 108
3 x 2 6	7 x 7 49	9 x 4 36	12 x 2 24	8 x 9 72	6 x 4 24	8 x 11 88	3 x 7 21	4 x 4 16	2 x 6 12
2 x 12 24	12 x 6 72	4 x 8 32	7 x 3 21	9 x 3 27	8 x 3 24	5 x 2 10	11 x 3 33	8 x 7 56	12 x 3 36
6 x 12 72	4 x 5 20	12 x 4 48	5 x 7 35	11 x 11 121	2 x 5 10	2 x 2 4	2 x 3 6	7 x 5 35	8 x 2 16
11 x 2 22	8 x 6 48	11 x 9 99	6 x 5 30	6 x 7 42	5 x 8 40	4 x 3 12	8 x 8 64	12 x 5 60	5 x 9 45
5 x 3 15	11 x 7 77	5 x 6 30	9 x 7 63	3 x 4 12	3 x 5 15	11 x 12 132	5 x 12 60	3 x 6 18	11 x 8 88
8 x 12 96	3 x 9 27	7 x 4 28	11 x 5 55	12 x 11 132	12 x 12 144	9 x 5 45	6 x 11 66	12 x 7 84	7 x 2 14
12 x 8 96	5 x 4 20	8 x 4 32	8 x 5 40	4 x 6 24	11 x 4 44	7 x 8 56	4 x 2 8	11 x 6 66	4 x 7 28
9 x 6 54	9 x 9 81	3 x 11 33	4 x 12 48	2 x 8 16	7 x 12 84	9 x 11 99	9 x 8 72	5 x 5 25	6 x 8 48
4 x 9 36	2 x 7 14	6 x 6 36	9 x 2 18	7 x 11 77	3 x 12 36	6 x 3 18	12 x 9 108	2 x 11 22	3 x 3 9

Name _____ Time _____ Score _____

Date _____

4 x 7	9 x 9	7 x 2	12 x 12	6 x 2	7 x 7	11 x 3	2 x 5	6 x 7	5 x 12
2 x 2	2 x 11	6 x 8	4 x 2	11 x 5	7 x 9	12 x 2	7 x 3	4 x 5	11 x 9
8 x 2	3 x 4	12 x 9	2 x 8	11 x 4	9 x 5	2 x 4	9 x 4	9 x 3	5 x 7
7 x 5	4 x 3	5 x 9	6 x 3	4 x 12	11 x 6	7 x 4	5 x 11	6 x 4	12 x 3
2 x 12	8 x 6	6 x 5	11 x 12	9 x 2	5 x 5	12 x 8	3 x 9	7 x 6	8 x 9
3 x 7	5 x 2	12 x 4	5 x 8	12 x 5	7 x 11	9 x 8	5 x 4	8 x 12	2 x 9
9 x 12	3 x 2	8 x 7	11 x 2	5 x 3	11 x 7	3 x 12	9 x 11	4 x 6	12 x 11
7 x 8	4 x 11	4 x 4	8 x 3	6 x 12	3 x 6	9 x 7	6 x 6	12 x 7	8 x 5
3 x 3	6 x 11	3 x 8	12 x 6	4 x 8	2 x 3	5 x 6	11 x 8	2 x 7	3 x 5
9 x 6	8 x 4	3 x 11	6 x 9	8 x 11	2 x 6	11 x 11	12 x 7	8 x 8	4 x 9

_____ ANSWER KEY _____

4 x 7 28	9 x 9 81	7 x 2 14	12 x 12 144	6 x 2 12	7 x 7 49	11 x 3 33	2 x 5 10	6 x 7 42	5 x 12 60
2 x 2 4	2 x 11 22	6 x 8 48	4 x 2 8	11 x 5 55	7 x 9 63	12 x 2 24	7 x 3 21	4 x 5 20	11 x 9 99
8 x 2 16	3 x 4 12	12 x 9 108	2 x 8 16	11 x 4 44	9 x 5 45	2 x 4 8	9 x 4 36	9 x 3 27	5 x 7 35
7 x 5 35	4 x 3 12	5 x 9 45	6 x 3 18	4 x 12 48	11 x 6 66	7 x 4 28	5 x 11 55	6 x 4 24	12 x 3 36
2 x 12 24	8 x 6 48	6 x 5 30	11 x 12 132	9 x 2 18	5 x 5 25	12 x 8 96	3 x 9 27	7 x 6 42	8 x 9 72
3 x 7 21	5 x 2 10	12 x 4 48	5 x 8 40	12 x 5 60	7 x 11 77	9 x 8 72	5 x 4 20	8 x 12 96	2 x 9 18
9 x 12 108	3 x 2 6	8 x 7 56	11 x 2 22	5 x 3 15	11 x 7 77	3 x 12 36	9 x 11 99	4 x 6 24	12 x 11 132
7 x 8 56	4 x 11 44	4 x 4 16	8 x 3 24	6 x 12 72	3 x 6 18	9 x 7 63	6 x 6 36	12 x 7 84	8 x 5 40
3 x 3 9	6 x 11 66	3 x 8 24	12 x 6 72	4 x 8 32	2 x 3 6	5 x 6 30	11 x 8 88	2 x 7 14	3 x 5 15
9 x 6 54	8 x 4 32	3 x 11 33	6 x 9 54	8 x 11 88	2 x 6 12	11 x 11 121	12 x 7 84	8 x 8 64	4 x 9 36

Name _____ Time _____ Score _____

Date _____

_____ ANSWER KEY _____

About the Author

First generation American Virginia Pong was born to immigrant parents in the shadow of the University of Michigan at Ann Arbor. While her mother was a Phi Beta Kappa graduate from its ivied halls, her father fled war torn China of the early twentieth century with only a grade school education. With a brash boldness that would show up in his daughter, he talked himself into his first job as an electrical engineer at General Electrical, a tool designer in Detroit and finally as an engineer in aerospace. Raised the youngest of six children, two brothers and three English refugee cousins, Virginia learned to read and write before starting school. She is a graduate of Northwestern Michigan College, the University of Washington, and the University of California.

As a teacher in the vast California public school system, Virginia taught a wide range of students from all walks of life and ethnic backgrounds ranging from the not so gifted to the brilliant and all of those in between. Nominated by her former students she was twice included in Who's Who among America's Teachers. In addition to teaching third grade through graduate school, her background includes consultant with Harcourt Brace Jovanovich text books, social services, and human resources administration. Virginia has competed in the international challenging event of racewalking and set a national record in masters competition, taken national titles, and won team gold at the World Veterans' Games. As a USA Track and Field certified official and coach, every racewalking athlete with whom she worked won either a national title, a national record, or both.

Parent, grandparent and great grandparent, Virginia currently resides in southwestern Washington State where she is applying the same educational management and developmental disciplines to a small technology and media company with roots stretching back more than a few decades.

Writing: A Sixth Grade Program

Writing: A Sixth Grade Program was developed to meet an obvious lack of student ability to write clear, well-organized, and understandable assignments needed for school, college, career, and life; it is successful across a broad spectrum of student ability. Student writing resulting from assignments in this book won as many as five of the six district-wide awards given in the annual writing festival held each spring for the school district's fourteen elementary schools.

A sell-out at the California State Conference for Gifted and Talented Education, *Writing: A Sixth Grade Program* provides teachers and parents an excellent framework on which to build student grammar and writing development in both language arts and content areas.

Each writing assignment includes teaching notes, student guidelines, and real student samples. A yearlong strand of basic grammar instruction (and how to test) and a seventeen page student reference/study section are provided in this inclusive program.

Writing, The Final Step

Writing: The Final Step shows the reader how to take a handwritten or typed document and transform it into an attractive creative publication that makes everyone look good—whether it be student, teacher, parent, employee, or company.

The difference between a finished printed product and a handwritten text or standard typed manuscript cannot be overstated. The days of real carbon copies are long gone and electronic wizardry has removed the scissors, glue and tape from the term "cut and paste." Now is the time to transform that written text into a truly finished work. Challenge yourself to use computer technology to create a flyer, booklet, or real paperback book that gives a meaningful purpose and validation to all your time and effort, a product of which to be proud—a publication ready for gift, distribution or sale.

Waiting for Waif, Educational Supplement

Waiting for Waif by A.V. Pong is both a delightfully simple and a deeply meaningful children's novel. Read it for personal pleasure and entertainment, or use it as a basis for developing skills in the language arts or encouraging investigation into other related subject areas.

Its companion book, *Waiting for Waif Educational Supplement,* is filled with instructional material and suggestions to use along with a more in depth reading of *Waiting for Waif.* It includes vocabulary/spelling words and activities, chapter summaries, comprehension questions, testing methods, multiple choice questions, and numerous topics for extension into content area subjects as well as for discussion, research, writing prompt, written assignment, or report.

~ Books available at Virginia's website: www.IntrixInc.com ~