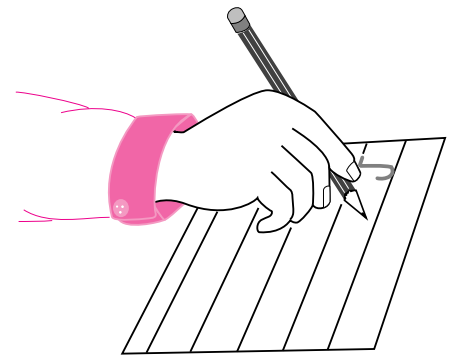


## Explaining handwriting objectives to students...

# The Muscle Memory Story -

## What are we trying to do during handwriting lessons?

Most people know that the brain is in charge of guiding the pencil to make letters, words and sentences. Guiding the pencil is a bit like driving a car or a school bus. But many people do not know that the brain has two different drivers for the pencil. One driver is the eyes. The other is your muscle memory.



It takes some practice to learn how to guide a school bus around turns and along straight roads, too. It also takes some time and practice to learn the way to your goal. That is part of the problem. If your brain always chooses the eyes to guide the pencil, it has a great deal of trouble remembering the way to each goal. However, your muscle system does have a good memory for where to start, when to turn left or right and where the goal is located. It does have a bit of trouble driving when it needs to fit into very tight spaces and when it needs to stop in a very exact spot. Writing on paper with lines creates tight spaces and makes us want to stop in very precise places.

Because we usually write on paper with lines, our brain wants to assign the task of driving to the eyes at first. It is a natural reaction but often means that the muscle memory never gets to practice driving. The best answer is to get your brain to allow the two drivers plenty of time to learn how to work together as a team. This will let your muscle memory drive most of the way and use the eyes as a helper - to look ahead for stop signs and turns - a bit like a navigator helps the pilot to guide an airplane from one city to another. The muscle memory can learn how to drive to the goal much faster because it can remember the way. When you know the way, you can travel much more smoothly and quickly.

So, if you want to improve your handwriting, it helps to know how to get your muscle memory into the driver's seat. You need to know when your muscle memory is driving to make sure it is getting lots of practice. Regular practice will help to improve control of the movements. Scientists have learned some secrets about how the muscle memory drives and about how the eyes drive. One of the secrets shows us an easy way to know if your muscle memory is practicing.

## The Muscle Memory Secret

Muscle memory can move your pencil with smooth rhythm. If you chant some words - or count aloud to create a beat - your muscle memory can drive the pencil with your voice. When your muscle memory is driving you can chant or count aloud as the pencil moves. But if your eyes are driving, you cannot move your pencil with smooth rhythm. You won't be able to chant or count aloud at the same time you move your pencil. It is a pretty simple goal to understand. By the way, you won't be able to chant aloud until your muscle memory knows where to start, which way to go and, where it is going to stop.

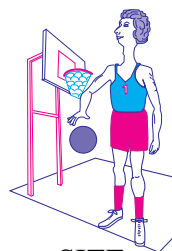
It is important to remember that it takes practice to become a good driver. The first time your muscle memory drives the pencil, the letter that appears on the page may look rather strange. It may not look very much like the model letter you are trying to learn. This makes many people switch back to driving with the eyes and their muscle memory no longer gets to practice. You must keep trying to move your pencil with your voice to give your muscle memory time to practice. Each practice try will produce a letter (or word) that looks a bit better as your muscle memory learns how to be a better driver. We practice to improve a skill named control. We use our control skill to get good form, slant, size and spacing. Together these subskills make your handwriting easy to read.



FORM



DOWNSTROKES



SIZE



SPACING

## Moving with Smooth Rhythm

It is important to know that smooth rhythm is not necessarily speed. Rather, it allows your brain to drive at different speeds - slow or fast - as the need demands. As control skills improve you will be able to move the pencil faster and still create legible writing. But remember, as you move faster control becomes more difficult.

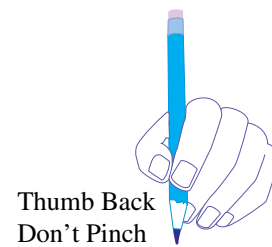
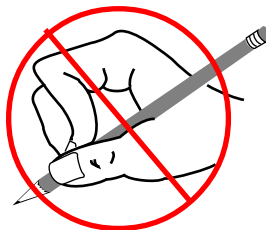
People who rely entirely on the eyes for driving the pencil must always proceed rather slowly because the eyes alone cannot remember the way to the destination. They say something like, "I can write neatly when I take my time, but when I write quickly my handwriting is very hard to read." These people often do not choose to use handwriting as a tool for learning new words and new information. It's a shame because writing things in your own words is one of the best ways to get new ideas organized in your brain. It is also one of the best ways to learn new words.

Can you write each new spelling and vocabulary word as you spell it aloud? Yes, spell aloud and write each letter as you say its name. After all, on test day you must write the words to show what you know. And, you must write neatly enough for your teacher to see each letter clearly. Your muscle memory can help you remember how to spell all of your new words if you give it a chance to practice and learn.

It is also great fun to test your muscle memory when practicing new words. Touch your pencil and close your eyes until the word is written. Open your eyes to find out how well the muscle memory did when driving all alone.

## General Pencil Driving Tips

1. A bumpy road makes driving much harder. That's one reason your teacher wants you to hold your paper in good writing position. Don't create a bumpy road by putting your paper on top of a book or pile of papers.
2. Our language travels from the left to the right across the page. Your muscle memory must use your arm and wrist to move your pencil along the lines. That's another reason your teacher wants you to learn paper position skills. You need to make sure that your arm and wrist are in good position for moving your pencil sideways as letters and words are created. Good paper position allows your writing hand and arm to be under the space you are using. That means your arm can move across the page easily.
3. Your muscle memory does need some help from your eyes when you are writing. This is one reason your teacher wants you to learn the best way to grip your pencil. If your fingers grip the pencil in a way that makes it hard for your eyes to see the writing space, you need to change your grip so your eyes can easily see where the pencil is going without twisting your back, neck and head to the side or slumping forward over your desk. Good sitting position is important for good health, good vision and good pencil driving.
4. You need to write all day in school. Your grip on the pencil can make it harder to get your work done. If your fingers pinch and squeeze on the pencil, they will get tired quickly. This can cause your hand and fingers to hurt. The discomfort is called Writer's Cramp. Learn to hold your pencil correctly and writer's cramp will not slow you down. It takes practice to learn a better grip. You can learn if you remember to practice the best grip each time you use your pencil.



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