

# Keyboarding

## *Teacher's Guide*

Pasadena ISD  
Pasadena, Texas

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Revised from the keyboarding booklet distributed  
By the  
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# Keyboarding Quiz

Circle T for True and F for False for each statement below:

- T F 1. Learners who watch their keyboards at the start tend to form an undesirable habit that is difficult to break.
- T F 2. Learners should be graded on the basis of words per minute.
- T F 3. The primary emphasis during keyboard learning should be on accuracy rather than technique.
- T F 4. Nonsense drills (i.e. *frf jumj*) are an important medium for keyboarding learning.
- T F 5. Keyboarding software (i.e. *Type to Learn*) must be used to teach keyboarding technique.

# Keyboarding Theory

## Keyboarding: What is it?

Keyboarding is a cumulative psychomotor skill involving the touch method of input to a standard keyboard device. It does not involve elements of typing such as text centering, page and letter format, etc. Therefore, the focus of a keyboarding course is primarily on input rather than output.

### What is the goal?

The goal of keyboarding instruction is to enable students to be more efficient in computer use and to avoid lengthy reteaching of keyboarding skills.

It is extremely difficult to retrain students who have developed improper keyboarding skills. For this reason, we will reach our goal through direct instruction by the teacher, which includes the careful monitoring of each student.

### How do we accomplish the goal?

Motor skills, such as keyboarding, are usually composed of a sequence of movements:

- A finger quickly strikes a particular key and then returns to the home key.
- As each finger moves to hit the desired letter, the other fingers must remain anchored to the home row.

To develop fine motor skills, a student must have a visual frame of reference to initiate understanding. Modeling by the teacher is an important facet in developing fine motor skills.

Once a student has learned proper keyboarding habits, the skills must be used, reinforced, and refined. It is important to understand that the keyboarding program must have a reason for the student to acquire the skill and a method by which all teachers reinforce and refine student skills in order to be effective.

A realistic keyboarding program must be based on direct instruction, modeling, and successive reinforcement.

Since keyboarding is a skill deemed important for all students, it is necessary to continually use and reinforce the skill in all grade levels. Students who use word processors frequently must receive keyboarding instruction and continuous reinforcement. Since writing is important at all grade levels, teachers are expected to teach word processing skills and incorporate word processing into class projects.

Many students can copy by hand from 7-10 gross words per minute (GWPM), depending upon the grade level. Consequently, the criterion for adequate keyboarding skills should at least equal that suggested by the handwriting norms. Students who achieve 10 GWPM can make adequate use of the computer for tasks, which require significant amount of keyboard entry. Children can learn both touch typing and word processing in as little as eight hours. This enables them to create stories on the computer at speeds of 15 GWPM (Wetzel, K. (1983). Keyboarding skills, my dear teacher? The Computer Teacher, 12(9). 15-16.)

**Keyboard awareness** is taught at the primary grades so that students are familiar with key locations, use of both hands, and proper posture. Keyboard awareness has a separate booklet designed by teachers within our district. It emphasizes the use of thumb on the space bar, little finger for the RETURN/ENTER key and use of two hands.

Since research has shown that ninety percent of students at the third grade level can be taught "keyboarding", the district has established that all third grade students begin **keyboarding with Professor AWHFE technique**. This technique requires keyboarding instruction and guided practice for 20 minutes a day for 4 weeks. A minimum goal of 10 words-per-minute (WPM) has been established through a hidden goal of 20-25 (WPM) is desired.

Recommended Goals:	Third Grade	10 WPM
	Fourth Grade	20 WPM
	Fifth Grade	30 WPM

Since the curriculum requires that students create compositions using the word processor, students must be able to keyboard at a comfortable and efficient rate of speed. Keyboarding skills are reinforced weekly through third grade. Major keyboarding skills are refreshed in fourth and fifth grades during the first two weeks of school. All fourth and fifth graders should create at least two compositions a month using the word processor.

**No Grades** should be taken during keyboarding, as it is a mastery skill. Students are expected to be able to keyboard efficiently. If a grade is taken, it should be on the ability to follow instructions.

# **Foundations of Keyboarding**

From theories of learning, the following assumptions and beliefs provide the foundation to a keyboarding program:

## **Districts must:**

- Determine where keyboarding will be formally introduced to students.
- Have a plan for keyboarding in the context of student needs and overall program goals.
- Provide adequate teacher training, machinery, and resources to ensure keyboarding success.
- Envision keyboarding as a cumulative skill and therefore should structure keyboarding instruction and reinforcement over a wide range of grade levels.

## **Teachers must:**

- Model keystrokes in keyboarding instruction.
- Must commit time daily to encourage proficiency in their students' keyboarding skills.
- Must use methods of keyboarding instruction that take into consideration the way in which the keyboard will be used.
- Should envision keyboarding as a cumulative skills, and therefore, should provide keyboarding instruction over all grade levels.

## **Students must:**

- Develop keyboarding skills just prior to the time they will apply the skill.
- Commit time daily to accomplish proficiency in keyboarding.

# **Pasadena IS Technology Applications Skills**

# The Structure of an Effective Keyboarding Program

A variety of literature suggests a sequence for the development of keyboarding:

- first *correct technique*,
- then *speed*,
- and finally, *accuracy*.

Initial keyboarding instruction, therefore, focuses on correct technique. Instructional periods should be approximately 15-20 minutes in length with one or two short evaluation exercises at the end of each lesson. Teachers must directly teach the concepts and physical reaches of keyboarding, as well as monitor student keyboarding technique. Software tutorials should only be used to reinforce skills taught.

## Benefits of an Effective Keyboarding Program

“Most workers who use computer keyboards have not been properly trained, and six out of 10 use incorrect keyboard techniques....Correct keyboarding skills cannot be self-taught. Every (standard) keyboard is designed to be used in only one way and that exacting finer technique applies to both the (letters) and numeric sections of the keyboard...In addition to spawning thousands of injury claims, improper keyboarding dampens productivity....What we typically find is that the same people who have poor keyboard skills also struggle to meet quality and productivity targets....In typical offices, employees spend two to three hours of their day at the keyboard....If people are uncomfortable, they make mistakes. If their eyes are tired after tens of thousands of focal points a day, they make mistakes.” (cited in The Houston Chronicle article of Sherwood Ross from the Reuters News Service, March 29, 1998).

# Keyboarding Objectives

- Keyboard Awareness can be utilized in grades PreK-2.
- Keyboarding should be formally developed in grades 3-12, beginning at grade 3.

## *The student will demonstrate:*

- Proper body/hand/finger position of efficient keyboarding operation.
- Correct use of the home-row positions and its anchor keys.
- Correct pairing of fingers to the keys.
- Firm and even stroking of the keys.
- Proper direction of the fingers from their home-row positions to the target keys and back to home positions.
- Control of the keys by touch.

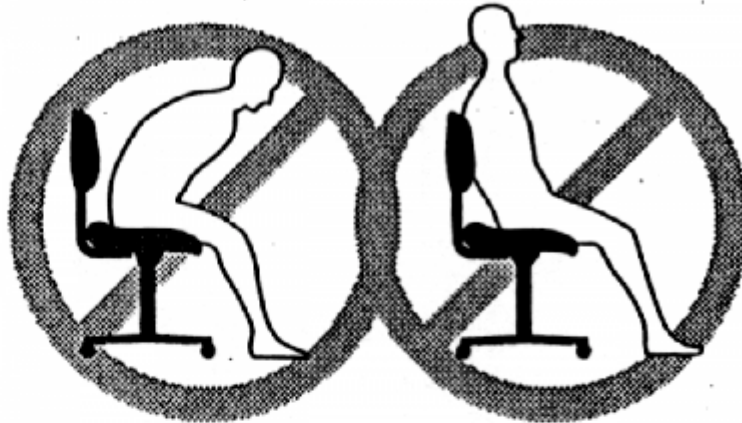
## *Instructional objectives should include:*

- Direct instruction by the teacher.
- Directed practice to prevent incorrect patterns during warm-ups.
- Daily emphasis on correct posture.
- Observation of individual student technique.
- Repetitive drill for redeveloping skill
- Variation of type of drill to keep student interest high.
- Dictation to develop rhythmic stroking.
- Motivation through praise.
- Use of instructional materials at the student's level of comprehension.
- Software tutorials should not replace instruction.

# USER-FRIENDLY

## Computer posture: Your back

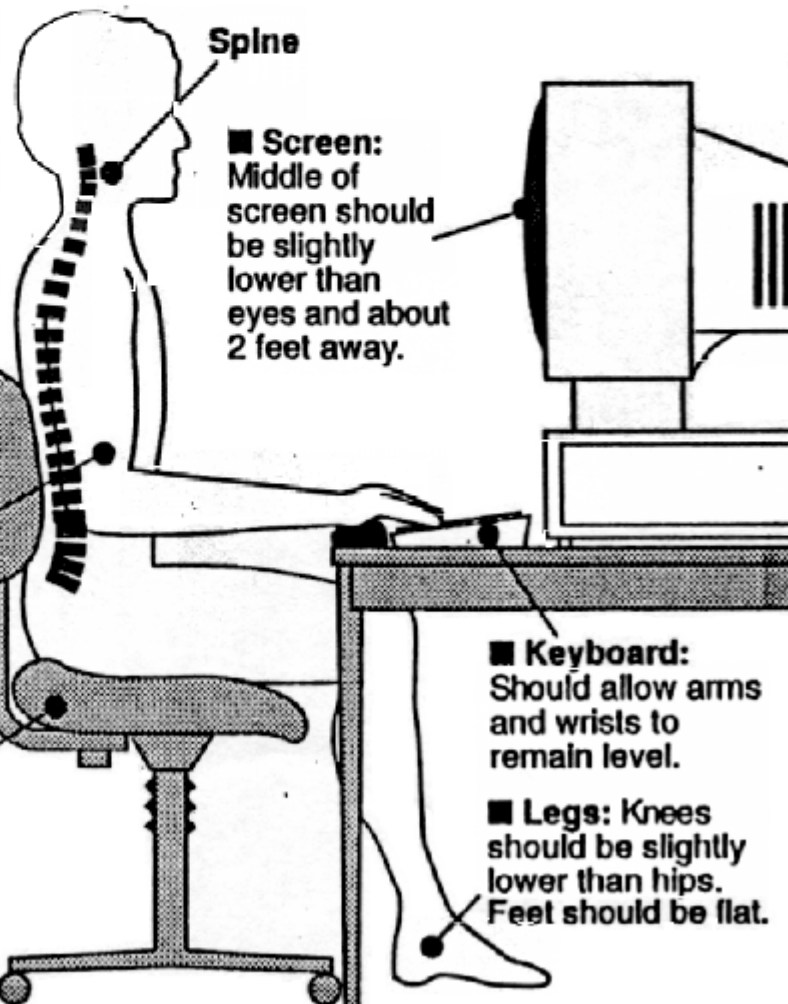
The human spine naturally curves. Sitting in ways that flatten or exaggerate these curves will lead to trouble.



■ **Positioning:** Sit up straight. Neck should not be bent. Do not lean from side to side or cross legs for long periods. Walk around occasionally.

■ **Arms:** Upper arms and forearms should form right angle. Wrists should not bend up.

■ **Seat:** Should fit very well or should have adjustable seat, back and arms. A waterfall front helps circulation in legs.



■ **Screen:** Middle of screen should be slightly lower than eyes and about 2 feet away.

■ **Keyboard:** Should allow arms and wrists to remain level.

■ **Legs:** Knees should be slightly lower than hips. Feet should be flat.

SOURCE: *San Jose Mercury News, PC Novice*

Copley News Service/Dan Clifford

# Keyboarding Implementation Checklist

- Principal requests keyboarding staff development for campus staff.
- Keyboarding staff development is presented by certified Technology Competency: Operations Instructor.
- Campus makes keyboarding booklets. Instructional Technology Department will reimburse campus for funds needed to get booklets completed.
- Instructional Technology Specialist meets with teachers implementing keyboarding to answer questions and clarify keyboarding technique issues immediately preceding keyboarding instruction.
- Teachers should give pretest to students at the beginning of keyboarding instruction.
- Teachers should give post-test to students at the end of keyboarding instruction.
- At the end of keyboarding instruction, teachers should furnish pretest and post-test scores to Instructional Technology Specialist.

# Lesson Sequence

# K E Y B O A R D I N G

Lesson 1	Pre-Activity Knowledge Timed Writing
Lesson 2	Posture-Professor AWHFE Home Row Space Bar Return
Lesson 3	Posture reinforcement G and H Keys
Lesson 4	E and I Keys Right Shift
Lesson 5	O and U Keys
Lesson 6	R and W Keys
Lesson 7	T and Y Keys Left Shift
Lesson 8	Review
Lesson 9	M and N Keys
Lesson 10	B and V Keys
Lesson 11	C and . (period) Keys Caps Lock
Lesson 12	X and , (comma) Keys
Lesson 13	Q, P and " (quote) Keys
Lesson 14	Z and ? (question mark) Keys
Post Test	

# LESSON 1 – Pre-Activity

## Objectives:

The student will:

- complete a knowledge-oriented keyboarding pre-activity.
- complete four 20-second timing exercises.
- list the rules of the keyboarding class.

## Preparation:

- sufficient copies of the pre-activity sheet (1 for each student)
- rules for the keyboarding class
- students will need a pencil and crayons or coloring pencils
- computer: word processing program booted into each computer

## Lesson Sequence:

1. Administer pre-activity.
2. Conduct timed tests.
3. Cover keyboarding class rules.

## *Setting the Stage*

### **Introduce Professor AWHFE!**

**(Don't tell the students the meaning of each letter now!)**

Demonstrate the keyboarding behaviors by sitting at a computer or keyboard device and keying several sentences. Be sure to **demonstrate the following behaviors:**

- a. **POSTURE** – back straight and leaning slightly forward, both feet on the floor.
- b. **ARMS** – straight down, forearm slightly higher than 90 degrees.
- c. **WRISTS** – straight and suspended above keyboard, resting on table top or keyboard.
- d. **HANDS** – comfortable over the home row.
- e. **FINGERS** – placed on home row keys, rounded or curved, not flat. Fingers stroke keys with a sharp tap, rolling towards the palm as the keystroke is completed.
- f. **EYES** – looking at the screen or at a document at the right or left of the keyboard.

Tell the students that the *behaviors you just demonstrated will be the goal of the keyboarding lessons.*

## **State Objectives of Today's Lesson to the Class**

Listed on the previous page and provided on a separate transparency.

### **Pre-Activity**

**Distribute the pre-activity to every student.** Have them complete the top portion by filling in *name, date, etc.*

You may **read the directions aloud**, if students do not have the ability to read them in independently. Students may also be assisted in comprehending the directions. (This is not a test of reading ability. It is an assessment of keyboarding knowledge and skills!)

**If sufficient keyboarding machines/computers are not available, one half of the class may begin with the timed test while the remaining half completes the paper component of the pre-activity.** If the students are grouped in this manner, be sure that each group knows what to do by giving students actual demonstrations.

### **20 Second Timing**

1. Tell the students that they will find out the number of words they can type. **Demonstrate** the procedure of a timed test as follows:
  - a. Place the timed test paper to the right of the keyboard.
  - b. Say "BEGIN" and begin typing the first line.
  - c. Say "STOP" before reaching the end of the line being typed.
  - d. Put an "X" on the letter that was typed just before "stop" was called.
  - e. Explain the procedure for calculating GWPM. If the first line were completed, then the GWPM would be 17. If the first and second lines were completed then the 17 from the first line would be added to the 18 GWPM in the second line giving a total GWPM score of 35.
  - f. Get ready for the next line....wait for the signal to "BEGIN".

2. Inform students that they are not expected to finish each line before “stop” is called. Also tell them that the same test will be used at the end of the keyboarding instruction so they can see how much they have learned.

### **Keyboarding Class Rules**

Each class will have its own rules based on the layout of the hardware, types of support materials, and the role of the teacher (or aide) in the classroom. There are some rules that will be the same for each keyboarding class. Using the transparency provided, chalkboard, or poster list, discuss the rules you expect students to follow. Be sure to add the following to your list:

At the beginning of class, **start a keyboarding warm-up immediately!**

**Do not waste time....**other students will need your machine.

**Remember PROFESSOR AWHFE!**

**Have a good time.**

**Practice** whenever you can....wherever you can!

### **Check**

What are the rules for the keyboarding environment? Have the students volunteer appropriate answers.

### **Closure**

Ask, “Do you remember the name of the professor who will be helping you learn how to type?” (Professor AWHFE!) Remind students that each letter represents a good keyboarding behavior that they will learn in the next lesson. Before the next class, have the students try to think of keyboarding behaviors represented by each letter. Suggestion: Be sure students can spell the Professor’s name!

## **LESSON 2 – POSTURE with Professor AWHFE**

**Home Row (a s d f j k l ;)  
Space Bar**

### **Objectives:**

The student will:

- list the 6 observable keyboarding behaviors.
- describe the proper use of the keyboarding lesson sheets.
- key the home row correctly.

### **Preparation:**

- sufficient copies of the Lesson 2 keyboarding sheet
- rules for the keyboarding class
- Professor AWHFE transparency (both the “blank” one and the one with descriptions of keyboarding behaviors)
- computer: word processing program booted into each computer

### **Lesson Sequence:**

1. Teach 6 observable keyboarding behaviors.
2. Review keyboarding class rules.
3. Teach proper use of the keyboarding sheets.
4. Teach home row keys.
5. Guide practice of home row keys.

### **Setting the Stage**

Using the transparency of Professor AWHFE (sounds like “coffee”), ask the students if they thought of any keyboarding behaviors that would begin with letters found in Professor AWHFE’s name.

### **State Objectives of Today’s Lesson to the Class**

Listed above. Use prepared transparency.

## Lesson Sequence

***NOTE: This lesson will require several days to complete!***

1. Demonstrate keyboarding behaviors by sitting at a computer or keyboard device and keying several sentences. Using the descriptive transparency. **TELL ABOUT and DEMONSTRATE the following behaviors:**
  - a. **POSTURE** – back straight and leaning slightly forward, both feet on the floor.
  - b. **ARMS** – straight down, forearm in line with the floor and slightly raised.
  - c. **WRIST** – straight and suspended above keyboard, not resting on table top or keyboard.
  - d. **HANDS** – comfortable over the home row.
  - e. **FINGERS** – placed on home row keys, rounded or curved, not flat. Fingers stroke keys with a sharp tap, rolling towards the palm, as the keystroke is completed.
  - f. **EYES** – looking at the screen or at a document on the right of the keyboard.

Tell the students that the behaviors you just demonstrated will be looked for each day as they practice their keyboarding lessons.

2. **Teach the home row keys** by demonstrating proper location of the home row keys of each finger. Use the keyboard transparency provided. Check students' understanding of this concept before continuing the lesson.
3. Before the students go to the keyboards/computers, **review the keyboarding class rules** developed in the previous class.
4. Have students **demonstrate appropriate posture** using Professor AWHFE as a reminder. Check students.
5. Have students demonstrate appropriate placement of their fingers on home row. **BE SURE TO CHECK EACH CHILD INDIVIDUALLY.**
6. Demonstrate the **proper stroking behavior** and have students imitate. **CHECK EACH CHILD AGAIN.**
7. Once students have demonstrated the proper keyboarding behavior, **teach them the proper use of the keyboarding lesson sheets.** (This may be accomplished best if students are not seated at the keyboards/computers.)

*Things to point out include:*

- a. All new keys will be TAUGHT before students practice independently. So, do not work ahead.
  - b. Know what keys are being stressed by looking at the title of the sheet.
  - c. Before beginning, put your fingers on the correct home row keys.
  - d. Key each line twice.
  - e. It is permissible to look at your fingers the first time through. After that, try to keep your eyes on the sheet. Make a game out of it.
8. **Demonstrate the way students will be expected to use a keyboarding lesson sheet.** Demonstrate proper posture and key several lines twice. Check the students' understanding.
9. **Demonstrate the proper keying of the space bar and the return key:**  
space bar – use right thumb in a quick, rolling motion  
return key – use the little finger on the right hand
10. **Allow students to begin keyboarding lesson sheet 2.** For the first two or three lines, talk students through the proper keystrokes. Pay attention to the space bar and return key usage. CHECK INDIVIDUAL STUDENTS.

You may wish to pace students the first time using a dictation drill in conjunction with the lesson.

## **Closure**

Review each objective in the lesson by informally questioning the group.

- a. What does Professor AWHFE stand for? Can you demonstrate each behavior correctly?
- b. What are the rules of the keyboarding class?
- c. Is it OK to look at your fingers all of the time while you type? When may you look at your fingers?

## LESSON 3 – POSTURE REINFORCEMENT g and h keys

### Objectives:

The student will:

- list the 6 observable keyboarding behaviors.
- participate in a warm-up exercise.
- demonstrate proper keying of the g & h keys.

### Preparation:

- sufficient copies of the Lesson 3 keyboarding sheet
- sufficient copies of the appropriate warm-up exercise
- Professor AWHFE transparency (both the “blank” one and the one with descriptions of keyboarding behaviors)
- keyboard transparency (that separates each finger path)
- computer: word processing program booted into each computer

### Lesson Sequence:

1. Teach 6 observable keyboarding behaviors.
2. Review home row keys.
3. Teach procedures for using warm-up activity sheets.
4. Teach g & h keys.

### *Setting the Stage*

Using the transparency of Professor AWHFE, have the students demonstrate the 6 observable keyboarding behaviors learned in the previous lesson.

### *State Objectives of Today's Lesson to the Class*

Listed above. Use prepared transparency.

## Lesson Sequence

1. **Review the home row keys by demonstrating** proper location of each finger on the home row. Use the keyboard transparency provided.
2. **Have students demonstrate the proper keyboarding behaviors** and home row position at their keyboards/computers.
3. **Distribute the warm-up sheet for use with lessons 2-4.** Be certain the sheet is placed to the right of the keyboard. Have students practice keying for several minutes using the warm-up sheet. Use this time to monitor student keyboarding behaviors and remediate individually.
4. **Demonstrate the reaches for the g and h keys.** Use the transparency *that separates each finger path*. Be sure that each student sees the demonstration. Check students' understanding. Reinforce the proper keying of the space bar and the return key.

space bar – use right thumb in a quick, rolling motion  
return key – use the little finger on the right hand

5. **Distribute lesson sheet 3.** Have students practice new keys taught. **CHECK EACH STUDENT.**

You may wish to pace students for the first few minutes using a dictation drill in conjunction with the lesson.

## Closure

Review each objective in the lesson by informally questioning the group.

- a. What does Professor AWHFE stand for? Can you demonstrate each behavior correctly?
- b. Is it OK to look at your fingers all of the time while you type? When may you look at your fingers?
- c. Demonstrate the proper finger reaches for the g and h keys.

## LESSON 4-14 REMAINING KEYS

### **Objectives:**

The student will:

- list the 6 observable keyboarding behavior while keying.
- participate in a warm-up exercise.
- demonstrate proper keying of the keys taught.

### **Preparation:**

- sufficient copies of the appropriate keyboarding sheet
- sufficient copies of the appropriate warm-up exercise
- Professor AWHFE transparency (both the “blank” one and the one with descriptions of keyboarding behaviors)
- keyboard transparency (that separates each finger path)
- computer: word processing program booted into each computer

### **Lesson Sequence:**

1. Students independently warm-up.
2. Teach keystrokes.
3. Monitor students' keyboarding behaviors.
4. Periodically assess speed.

### ***Setting the Stage***

Students should immediately begin the appropriate warm-up exercise.

### ***State Objectives of Today's Lesson to the Class***

Listed above. Use prepared transparency.

## Lesson Sequence

1. **Demonstrate the appropriate reaches for the keys covered in the lesson.** Use the transparency *that separates each finger path*. Be sure that each student sees the demonstration. Check students' understanding. Reinforce the proper keying of the space bar and the return key.  
  
space bar – use right thumb in a quick, rolling motion  
return key – use the little finger on the right hand
2. **Distribute the appropriate warm-up sheet.** Have students practice new keys taught. CHECK EACH STUDENT.

You may wish to pace students for the first few minutes using a dictation drill in conjunction with the lesson.

## Closure

Review each objective in the lesson by informally questioning the group.

- a. What does Professor AWHFE stand for? Can you demonstrate each behavior correctly?
- b. Is it OK to look at your fingers all of the time while you type? When may you look at your fingers?
- c. Demonstrate the proper finger reaches for the appropriate home row keys.