The human body is not designed for long sessions of repetitive movement. You might even know someone who has strained their hands and fingers by playing video games. Keyboarding can present similar dangers. When you key, you repeat many small movements with your hands and fingers. You might be keying for a long time. If you position yourself correctly, however, you can avoid strain and fatigue.

Even if you do not practice healthy keying techniques, you might not experience any problems while you are young and flexible. However, over the years, if you don’t begin to key correctly, you will repeat thousands of stressful movements. You risk painful long-lasting injury that can reduce the quality of your life and your ability to work. It pays to develop healthy keying habits now.

**ADJUSTING YOUR WORKSTATION**

In a classroom you do not usually have much choice in the equipment you must use. However, flexible equipment and a little imagination can help you adjust your workstation.

**Adjusting Your Keyboard and Mouse**

You want your fingers to gently curve over the keys while your wrist is in a flat, neutral position.

- If wrist rests are available, place one in front of the keyboard as a guide. Never rest your arms, hands, or wrists while you are keying.
- Place your mouse or trackball at the same height as your keyboard, in easy reach of your preferred hand.

**Adjusting the Slope of Your Keyboard**

If your keyboard slants toward you, you need to adjust it so it is flat or slopes down away from you.

- Flatten the kickstand at the back of the keyboard.
- Alternatively, raise the front of the keyboard about \( \frac{3}{4} \) inch by using door wedges, a wood strip, or a box.

**TECHNIQUE TIP**

Never rest your arms, hands, or wrists on anything while you are keying.
CORRECT KEYING POSTURE
After you have adjusted your workstation, you need to maintain the correct keying posture.

CHECKLIST

**Keying Correctly**

- ✓ Center your body on the J key, about a hand’s length from the keyboard and directly in front of the monitor.
- ✓ Hold your head straight over your shoulders, without straining forward or backward.
- ✓ Position the monitor at eye level about arm’s length away so you look down about 10 degrees.
- ✓ Elongate and relax your neck.
- ✓ Keep your shoulders down.
- ✓ Tilt your keyboard slightly down toward the monitor. This helps you keep your wrists neutral and your fingers relaxed and curled.

- ✓ Adjust your chair and keyboard so your elbows bend at right angles.
- ✓ Keep your arms close to your sides but free to move slightly.
- ✓ Keep your wrists relaxed and straight in a “neutral” position.
- ✓ Keep your back upright or tilted slightly forward from the hips. Keep the slight natural curve of your lower back. Use a cushion or adjust the chair to support your lower back.
- ✓ Keep your knees slightly lower than your hips.
- ✓ Adjust your chair so your feet are well supported. Use a footrest, if needed.

**AVOIDING STRESS WHEN KEYING**
There are two ways to avoid stress when keying. First, you need to maintain the correct keying posture as you key. Second, you need to take a short break every 20 to 30 minutes and perform stretching exercises designed to help you avoid strain, fatigue, and injury.

**Maintaining a Correct Keying Position**
It’s easy to start keying by using the correct keying position. As we key, however, many of us lose our focus, and bad habits begin to creep in. It’s important to check your keying position to make sure you are still keying correctly.
TABLE K-1: Maintaining a Correct Keying Position

<table>
<thead>
<tr>
<th>Maintain a Correct Position</th>
<th>Avoid Stressful Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIGURE K-2</strong></td>
<td><strong>FIGURE K-3</strong></td>
</tr>
<tr>
<td>Maintain a correct upright posture.</td>
<td>Avoid slouching, extending your elbows, or bending your wrists.</td>
</tr>
<tr>
<td><strong>FIGURE K-4</strong></td>
<td><strong>FIGURE K-5</strong></td>
</tr>
<tr>
<td>Maintain a neutral position with your hands.</td>
<td>Avoid twisting your hands inward or outward.</td>
</tr>
<tr>
<td><strong>FIGURE K-6</strong></td>
<td><strong>FIGURE K-7</strong></td>
</tr>
<tr>
<td>Maintain a neutral wrist position with gently curled fingers.</td>
<td>Avoid bending your wrists or using an upward-sloping keyboard.</td>
</tr>
</tbody>
</table>

Stretching and Resting

When you key for a long time, your muscles stiffen. You become fatigued and risk injury. You build tension in many parts of your body, including your neck, arms, and wrists. To relieve the tension and reduce the threat of injury, you should stretch before you start keying. You should also take short breaks from keying every 20 to 30 minutes and stretch.

**Stretch 1: Neck Stretch**

Sitting tall, bring your chin toward your chest, stretching the back of your neck. Slowly repeat two times. See the following page.
Stretch 2: Head Turn
Begin with your head in a neutral position. Look all the way to the right without moving your chest or upper back. Then look to the left. Slowly repeat two times.

Stretch 3: Head Tilt
Begin with your head in a neutral position. Bring your ear toward your shoulder without turning your head or lifting your shoulder. Hold for a count of five. Reverse directions.
Stretch 4: Downward Wrist Stretch
With your left fingers pointing down and your palm in, place your right hand over your left knuckles. Extend your arms straight out. Gently press back with your right hand to a count of ten. Reverse hands. Repeat the stretches using a fist.

FIGURE K-11

Stretch 5: Upward Wrist Stretch
With your left fingers pointing up, place your right hand over your left palm. Extend your arms straight out. Gently press back with your right hand to a count of ten. Reverse hands. Repeat the stretches with fingers pointing down and the palm out.

FIGURE K-12

Benefits of Keying Correctly
Training takes effort and time. If you already use a keyboard, you might have to re-teach your body to use correct techniques. You might ask yourself “Why make the effort? I’m already keying fast enough.”

Just imagine you will probably be using a computer for the rest of your life. If you don’t learn now, you will probably need to learn later. There’s really no escaping it. Besides, if you learn to key correctly, you will:

♦ Increase your speed.
♦ Increase your efficiency, making fewer errors.
♦ Increase your effectiveness because you can see your work and screen while your hands are free to work.
♦ Stay healthy, avoid injury, and remain productive over your lifetime.
BREAKING BAD HABITS

Many of you might have been keying for years. However, without any formal training, you could easily have developed bad habits.

The best way to correct bad habits is to use natural breaks as checkpoints. For instance, look at your own habits at the end of each exercise, paragraph, or page you type. Consider your posture, sitting position, hand position, keying technique, and work habits.

To help you break your bad habits, here’s a “Bad Habits Checklist.” Check it when you start keying and when you take a break. If you know you have a particular bad habit, try to focus on the correction at the beginning of every keying session. Eventually the bad habit will be replaced by the good habit. It takes work, but it’s worth it.

<table>
<thead>
<tr>
<th>Bad Habits</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slouching</td>
<td>Sit up straight with your feet flat and well supported.</td>
</tr>
<tr>
<td>Reaching too far for the keyboard or the mouse</td>
<td>Sit one hand’s length from the keyboard. Keep elbows at right angles.</td>
</tr>
<tr>
<td>Leaning your hand on the keyboard or the wrist support</td>
<td>Hover your hands over the keyboard; curl your fingers slightly.</td>
</tr>
<tr>
<td>Bending your wrists forward, back, left, or right</td>
<td>Keep your forearms and wrists straight and in the neutral position.</td>
</tr>
<tr>
<td>Pounding the keys</td>
<td>Strike keys lightly.</td>
</tr>
<tr>
<td>Looking at the keyboard</td>
<td>Position the workstand close to the monitor at eye level. Keep your eyes on your work.</td>
</tr>
<tr>
<td>Raising your elbows</td>
<td>Keep your arms close to your body.</td>
</tr>
<tr>
<td>Raising your shoulders</td>
<td>Keep your shoulders relaxed, with your chest open and wide.</td>
</tr>
<tr>
<td>Keying with the wrong fingers</td>
<td>Practice with correct fingers until you establish the right habit. Your speed will then improve.</td>
</tr>
</tbody>
</table>
LEARN AND PRACTICE

Begin keying by placing your fingers on the eight keys—
called the home keys—A S D F J K L and semicolon ;
as shown below.

The index finger of your left hand should rest on F, your
second and third fingers rest on D and S, and the little
finger of your left hand rests on A. For your right hand,
your index finger should rest on J, your second and third
fingers rest on K and L, and your little finger rests on ;.

From now on, the finger you use to press a key will be
named for its home-key letter. For example, your left little
finger is the A finger. Your right index finger is the J finger.

From the home keys, you can reach all the other keys on
the keyboard. The keyboard diagram shows which home-
key finger is used for each key. For example, you use the D
finger to key all the keys in the band of green on the
left. You use the L finger to key all the keys in the band
of red on the right, and so on. When any finger is not actu-
ally pressing a key, you should keep it resting lightly on its
home key.

The row of keys containing the home keys is called the
home row. The row below the home row is the first row. The
row above the home row is the third row.

HOME KEYS

A Use the A finger.
S Use the S finger.
D Use the D finger.
F Use the F finger.
J Use the J finger.
K Use the K finger.
L Use the L finger.
; Use the ; finger.

The semicolon (;) is typically used between two independent clauses in a sentence. In a sentence, key one space after a semicolon.

KEYBOARDING TIP

On ; only the semicolon is colored. This is because the key is used for two different characters. In this lesson, you learn how to key the semicolon. In a later lesson you will learn how to key a colon.
Learn and Practice the Spacebar

Notice that on the keyboard diagram, the keys you have learned are darker and tinted with their background color. Now locate the Spacebar on the diagram. You use the Spacebar to insert spaces between letters and words. You press it by using the thumb of your writing hand (that is, the hand you use for writing). You do not use the thumb of your other hand.

Key the home-key letters, inserting a space after each letter by pressing the Spacebar quickly and lightly. (Drill lines are numbered. Do not key the green numbers.)

1 a s d f j k l ;

You do not have to wait for a text line to be “full” before starting a new line. Pressing the Enter key starts a new line of text whenever you need one. You press Enter by using the ; finger. Try to keep the J finger on its home key when you press Enter.

Now press Enter (↑) to start a new line.

Key each of the lines below twice. Press Enter (↑) after each line.

2 asdf jk1l; asdf jk1l; asdf jk1l;↑
3 ;lkj fdsa ;lkj fdsa ;lkj fdsa↑
4 fd jk sa l; fds jkl dsa kl;↑
5 dfsa l;kj ddss kkl1 ffaa ;;jj fjdk ls;a↑

Learn and Practice Double-Space

You can add a blank line between lines of text by pressing Enter twice. This is how you double-space text. (Two consecutive Enters are sometimes referred to as a double line-space.)

Key a line of text, press Enter, and then key it again. After you key a line the second time, press Enter twice before keying a new line. Using this method, key each line twice, and double-space after each pair of lines.

6 adfs jlk; aj sk dl f; aaa jjj sd kl ldksk↑
7 fjjf dkkd slls l da l; ks fj ;f sss ll1 dl↑
8 kkd dlk ds ddd ;f ff ;; fd1; sl f; ds kl↑
9 a as dad sad fads lads lass falls flaks↑

TECHNIQUE TIP
Begin with your fingers curled and lightly touching the home keys.

TECHNIQUE TIP
Make sure your back is straight or tilted slightly forward from the hips.
LESSON 2

Review the Home Keys

The keyboard shows the keys you have learned so far. This lesson focuses on the keys highlighted in purple.

WARM UP

Key each line twice. Double-space after each pair of lines (remember, that means pressing Enter after you key the line the first time and pressing Enter twice after you key the line the second time).

1. asdf jkl; asdf jkl; asdf jkl; as df jkl
2. ;lkj fdsa ;lkj fdsa ;lkj fdsa ;lkj fdsa
3. fk dk sl a; fds jkl asd ;lkj k fd asf lj
4. sdl fdk kls ad; jfd salk klas dsf; flks;

PRACTICE

Key each line twice. Double-space after each pair of lines.

Left-Hand Focus
5. fdsa asdf ff dd ss aa fd sa ds af asf fd
6. asdf df df sd sd as as fa af das fad saa
7. fads df as dfad ddfs fada dada fafa sasa

Right-Hand Focus
8. jkl; ;lkj jj kk ll;; jk l; kl j; jak; jk
9. jkl; l; l; kl kl jk jk ;j j; ;lk ;lk kjj
10. jlkj l; jk jll lkkj llkj llk jkkl; kllj;

Home Keys
11. asdf jkl; fjdk l;sa fjk jfd dkl kds; all
12. jk df dk jf sl a; fj fd s; akl kds ldkll
13. adkl dajk kads lfd s; ljd s jf ds lks; jdlk
14. as a dad; all lads; all fads; as a lass;
15. lads; dads; as sad; lass; as all; a fad;

TECHNIQUE TIP
Concentrate on pressing the correct keys. Read silently letter-by-letter as you key. In this Warm Up do not focus on your speed.

BAD HABITS
Do not hammer your fingers on the keyboard. Strike keys with a light tap.
LESSON 3

Learn \( E \) and \( H \)

WARM UP
Key each line twice. Double-space after each pair of lines. Do not look at the keyboard when you are keying.

1. a dd aaa as asd sdf j jj jkj jkl jkl;
2. as ads ask; lass dada jask fads dads sad;
3. lads dada daff; jajs ja salad dads; saks;
4. jakk jall; jadd dajs ladd saddl aja had;

LEARN

Reach your \( D \) finger up and slightly left when you key \( E \). Keep your \( A \) and \( S \) fingers anchored on their home keys. Reach your \( J \) finger directly left to key \( H \). Keep the other right-hand fingers anchored on their home keys.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice e
5. d e d ddd eee de eede eed lee eel del eel
6. eee ddd illl eel led eee dell lee led lee
7. eee ddd elk elf sell eed ddd see lee fee

Practice h
8. h h jjj hhh hj hjh hjh jjj hhh jj hhh
9. aaa hhh ash sss ash hh ss aa has sa sash
10. ha had aha has heal she hee half hah has

Practice e and h
11. he he eh eh hh hhh eee she eh she eh hee
12. hhh eee easel feed seed heed lead she he
13. jade desks head sake head lead seal jade
14. has heed; lad had; heel hale; seek sale;

New KEYS

\( E \) Use the \( D \) finger.

\( H \) Use the \( J \) finger.

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LESSON 4

Learn R and I

WARM UP

Key each line twice. Double-space after each pair of lines. Concentrate on pressing the correct key each time.

1 ff fff ddd fd df jj jkj lkJ fjk fdjk hhj
2 fed fej fek dek dell jade dale fake keel
3 lease lash lake ladle leak led leek feel
4 flea fled sea seal sell sleek shake heel

LEARN

NEW KEYS

R Use the F finger.
I Use the K finger.

Reach your F finger up and slightly left when you key R. Keep the other left-hand fingers anchored on their home keys. Reach your K finger up and slightly left to key I. Keep the other right-hand fingers anchored on their home keys.

TECHNIQUE TIP

Adjust your chair and keyboard so your elbows bend at right angles.

Practice r

5 fff frf frf fff rfr rfr fff rrr fff rrr
6 ra are far raf dare reef fear free freed
7 red jar lard reel dark darker hares rare

Practice i

8 k kk iii kik kkkikki iki kk ii kkk kiki
9 ii ll jj kij sill jik ilk fill dill kids
10 if is silk kid hid kill ilk kiss hi hide

Practice r and i

11 ri ire ride sir rife fire dire sire rise
12 if ride hire hare hers rides fries dries
13 lair fair hair raid rid dill drill frill
14 riff sheared shire sear fire liars fried
LESSON 5

BAD HABITS
Do not look at the keyboard. Keep your eyes on the screen or on your work.

REVIEW

The keyboard shows the keys you have learned so far. This lesson focuses on the keys highlighted in purple.

WARM UP
Key each line twice. Double-space after each pair of lines.

1 all ale ad else sled sell sale lass less
2 sheer shear share ail air rile lair fair
3 hash flea his head lead lease deals dash
4 here hares hire hair jars jeer rear dear

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice e and h
5 ddd dde ded dde eed ed deeds sea eel see
6 hhh hjh jhj jji jji hh ja had he has she
7 had shed he she jade lake head ease heed
8 deed heed seed seal fed easel lease

Practice r and i
9 rrr ffr frf rfr re are red her fair here
10 iiii kik kki if ire dire kid lie like
11 rise iris frail rail err dear dire fires
12 sire fire liar lair rail hail jail riser

Practice e h r and i
13 heir hare hair heard hire here rare rear
14 lairs said share shire red her idea dare
15 jeers; sir fir hear; fare hare hair lair
16 sear shared; liars rails hired fired ire
17 hailed fresher fished rides herds shades
Warm Up

Key each line twice. Double-space after each pair of lines. Keep your fingers anchored on the home keys.

1. f ff fff fir fire fir fire fff ff fff ff
2. l ll lll lad lade lad lade lll ll lll ll
3. fall fell fill earl leaf field fife life
4. hall hall lire dire rare rash dash flash

Learn

Reach your F finger up and right to key T. Keep your A, S, and D fingers anchored on their home keys. Reach your L finger up and slightly left to key O. Keep the other fingers of your right hand anchored on their home keys.

Practice

Key each line twice. Double-space after each pair of lines.

Practice t
5. f ff ttt ftf tft fftt the that this tree
6. this tall tree; tear it; lift the tires;
7. at all; third three first; at tea three;

Practice o
8. o ll o oo lol olo old lot soak sold told
9. ode doe rot dot lot lost slot joke joker
10. oars are solid; oats look food; a lot of

Practice o and t
11. ff tt trt ll oo lo ol ooo of to too toto
12. foot fool tools loot took jots lots soot
13. hoot; odes to; store; lots of lost tools
14. hold those; if told; he dotes; too short
LESSON 7  Learn G and N

WARM UP
Key each line twice. Double-space after each pair of lines. Keep your wrists and fingers relaxed.

1 f ff fff fit file fail fir fr ftr ftt tf
2 j jj jjj jar jail has hill jhj jj hhj jj
3 feel foil life half heal this that those
4 joke hers rake fast haste hoist lash lid

LEARN

NEW KEYS
G  Use the F finger.
N  Use the J finger.

TECHNIQUE TIP
When keying, hold your head straight, without tilting it forward or backward.

Reach your F finger directly right to key G. Keep the other fingers of your left hand anchored on their home keys. Reach your J finger down and left to key N. Keep the other fingers of your right hand anchored on their home keys.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice g
5 g gg ggg fgf fgtg tgf go gal got get lag
6 sag sage stag stage gas rag egg edge leg
7 dog ledge keg grog get tiger grade grail

Practice n
8 n nn nnn jnj jnhn hnjn no on in kin none
9 rind seen lane train lane lean nine lion
10 tan ten tin tones none nasal tinnier

Practice n and g
11 ff gg gg jj nn nn gn ng ing ing nag ring
12 nag anger gnarl range longer green grind
13 ring grand glean grin gone gentle ginger
14 tangle dangle strange slings and strings
LESSON 8

Learn Left Shift and Period

WARM UP

Key each line twice. Double-space after each pair of lines. Keep your fingers curved.

1. a aa aaa j jj jjj; a aa aaa j kk lll jkl
2. l ll lll lag lags land doll dill toil in
3. all lie like kite kin of ode or ore idea
4. lashes slides knell soil sails rill roil

LEARN

Reach your \( A \) finger down and left to press the Left Shift key. With Left Shift pressed, you can strike any right-hand key. Then release Left Shift. Reach your \( L \) finger down and slightly right to key \( . \). Keep your \( J \) finger on its home key.

PRACTICE

Key each line twice. Double-space after each pair of lines.

Practice Left Shift

5. jJ Jj Jd kK Kk Kf lL Ll Ls JdJ fKKf sLLs
6. hH Hj Ha aHHa; Jill Hill Lee; Hall Iris;
7. Hi there Hello; Here he is; Leo the lion

Practice Period

8. a. l. s. k. d. j. f. e. r. t. i. o. n. a
9. adj. alt. art. e.g. gal. i.e. inf. sing.
10. in. ft. kil. gr. lit. orig. transl. del.

Practice Left Shift and Period

12. Long. Lat. N.H.L. Joe and Jed; King Lear

NEW KEYS

Use the \( A \) finger.
Use Left Shift for right-hand capital letters (and for all other shifted right-hand characters).

Use the \( L \) finger.
A period is used in abbreviations and to mark the end of a sentence. Typically, one space follows a period.

BAD HABITS

Do not look at the keyboard. Keep your eyes on the screen or on your work.

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LESSON 9

Review Left Shift T O G N and Period

The keyboard shows the keys you have learned so far. This lesson focuses on the keys highlighted in purple.

WARM UP

Key each line twice. Double-space after each pair of lines. Concentrate on pressing the correct key each time.

1. t to to tot toe not note got gotten tote
2. jJ kK lL hH iI oO. Joke; Kids like Jake.
3. Joanne is terse. Nora nods. Kane is kin.
4. Kirk tends to the garden. Lana looks on.

PRACTICE

Key each line once. Double-space after each group of lines.

5. ttt ooo fff lll to too toot tot toe tote
6. to tone toner foot oat lot jot rote goat
7. toast knots trots lost stones toes ghost
8. ggg nnn ggg nnn no go; gone; genes; sign
9. long longer longest longing song singing
10. no nod node; note done; gig agog; gotten
12. Kin are kind. Logan Hotel. Otis loiters.
14. to go to. Nine tons. No one going. Ogden
15. green gnarl great gross gnats grain gilt

TECHNIQUE TIP

Center your body on J, about a hand’s length from the keyboard, directly in front of your monitor.
WARM UP
Key each line twice. Double-space after each pair of lines. Strike the keys with a light tap.

1. d dd ddd sad sat dot dog done dotes adds
2. j jj jjj Jill Join hill her his hat hits
3. Lili held on. Jade is green. Jess holds.
4. does he dial one or three; drifted east;

LEARN

NEW KEYS
C Use the D finger.
U Use the J finger.

Reach down and slightly right with your D finger to key C. Keep the A and S fingers anchored on their home keys. Reach up and slightly left with your J finger to key U. Keep the K, L, and ; fingers anchored on their home keys.

TECHNIQUE TIP
Hold your head up and relax your neck.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice c
5. d dd c cc dc dc dcd cad cat cater decade
6. lacks class clicks coins; Nick can cook.
7. lace cask flock shock Jack likes cheese.

Practice u
8. j jj u uu ju juj uuj uj us use sue uses
9. due hue hurt huge urge; He is Uncle Kurt.
10. Used lutes and flutes; noun run nuts hut

Practice c and u
11. cur cue cut cud curt cute cuff cure curd
12. cull could cough couch accuse occur ouch
13. curls cushion curious cluck scour ruckus
14. such clubs culture course cruel function

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LESSON 11

Learn W and Right Shift

WARM UP
Key each line twice. Double-space after each pair of lines. Keep your arms close to your sides but free to move.

1  s ss sss sash ski skits sour sell sister
2  so; does; sun; stars; sass; losses; dust
3  Hugh shares his fish. He leads us south.
4  sack; cast; usage; soccer; lesson; sense

LEARN
Reach up and slightly left with your S finger to key W. Keep your F and D fingers anchored on their home keys. Reach your J finger down and right to press the Right Shift key. (Keep your J and K fingers anchored on their home keys.) With Right Shift pressed, you can strike any left-hand key. Then release Right Shift.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice w  5  s w ss wws wss ws wsw sss www sss ssw
          6  saw awe dew draw jaw law wall well wills
          7  sag wad owe we wan wall week wear wealth

Practice Right Shift  8  S; St; SA; W.A.G. F Fa Go Ta Da Ed We Fr
                      9  Fast Far Face Dad Dash Deal Sad Sash Add
                      10  AHA; Cold Drinks; Fine Sand; Grills Fish

Practice w and Right Shift  11  The Fresh Air Fund; The Far East; C.O.D.
                                 12  WAAF Go slowly. Walt thinks; Tess walks;
                                 13  Glow Aware Flaw Waist Rower Ewe Chew Few
                                 14  Raw Flow Worn Waif Grown Stew Stow Worth

NEW KEYS

W  Use the S finger.
Shift  Use the ;: finger.

Use Right Shift for left-hand capital letters (and for all other shifted left-hand characters).

TECHNIQUE TIP
Remember to use the Right Shift key for left-hand capital letters and the Left Shift key for right-hand capital letters.
LESSON 12

Learn X and M

WARM UP
Key each line twice. Double-space after each pair of lines. Keep your wrists relaxed.

1. s ss sss w ww www sw wsw sw saw sew swat
2. j jj u uu jiujitsu Julio jingle just jaw
3. Chris Wes Wendi sacks socks clock roasts
4. as is was SST Sid idle snack snake straw

LEARN

Reach down and slightly right with your S finger to key X. As you make the reach, keep your F finger anchored on its home key. Reach down and slightly right with your J finger to key M. Keep your K, L, and fingers anchored on their home keys.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice x
5. s ss x xx sx xxs xs xss S X XSX six axis
6. ax axe axel ox oxen fox flex sax sox FAX
7. Rex hoax nix next index annex Saxons XXI

Practice m
8. j jj jm mj jnmj mnmj mm mm mmm JM MJ me mom
9. Milk makes more might. gamma mailman mum
10. mammoth makes mole mire magma Mark merge

Practice x and m
11. wax tax lax gum gem exam remix minx coax
12. mold mile mere more magic marred maximum
13. Tom Mix; Max; Mr. Maxwell; Ms. M. Maxine
14. maxim mixture axiom Manx matrix exclaims

NEW KEYS

X  Use the S finger.
M  Use the J finger.

TECHNIQUE TIP
Keep your shoulders down.
Review C U W X M and Right Shift

The keyboard shows the keys you have learned so far. This lesson focuses on the keys highlighted in purple.

WARM UP
Key each line twice. Double-space after each pair of lines.

1. Dd Ss Cc Jj Uu Ww Xx Mm cue cruel tuxedo
2. sugar smudge mail male malls urges under
3. Ursa Essex Tom mow met metric metal axle
4. Caitlin wash wish wells waxes masc. fem.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice c and u
5. muck duck duct tuck luck lucid cull cuss
6. cute could crush crust touch truck scull
7. deuce stuck stack sticks success custard

Practice w and Right Shift
8. William Washi Wen Winslow Woodrow Wilson
9. Wolfgang Winona Wade Wheeler Wilma Wendi
10. Willow Wallace Wanda Ward Wes Walt Willa

Practice x and m
11. mix Mexican maximum maximal Maddox moxie
12. mixer Alex examined axmen taxman Maxwell
13. mass exits extremes exhumes sixth summer

Practice c u w Right Shift x and m
15. Dexter Wexler Chuck chum chew chow exits
16. Sammie worries that few hear much music.

TECHNIQUE TIP
Key by using the correct reach; other fingers should remain in their home positions.
LESSON 14

Learn B and Y

WARM UP

Key each line twice. Double-space after each pair of lines. Do not look at the keyboard.

1) if elf fast fill fun effort effect faded
2) end hen den jail Julie hale hinge jogger
3) gas sash fish half fresh joshes freshman
4) Edward jest heft cleft gash grass jagged

LEARN

Reach your F finger down and right to key B. Keep your A finger anchored on its home key. Reach your J finger up and left to key Y. Keep the other right-hand fingers anchored on their home keys.

PRACTICE

Key each line twice. Double-space after each pair of lines.

Practice b
5) fff fbf bfb bbb fbf bbb fb bf baa be fib
6) bee bib bat bar rub dub cub club tub but
7) been bias bunt tuba stub beef bark about
8) cable rabbit cabbie ribbon rubber bubble

Practice y
9) jji jyi yyj jiyj yyj yyj yj yd jay hay
10) you yet yes say sty dry day aye fly away
11) joy jay jury ray rely yolk yen nosy body
12) Young York Yak yam yummy tiny teeny tidy

Practice b and y
13) Bryce buys a bulb to brighten the lobby.
14) Buddy the bulldog labors to bury a bone.
15) Brody yearns for a yacht; bye bye money.

NEW KEYS

B Use the F finger.
Y Use the J finger.

BAD HABITS

Do not reach far for the keyboard. Keep elbows at right angles but free to move slightly.
LESSON 15  Learn V and P

WARM UP
Key each line twice. Double-space after each pair of lines. Key by using the correct reach.

1. ff gg bb fbf fans feels Biff baffles bye
2. j; Jill; lo; hi; his; hers; their; lake;
3. good friend; forge ahead; lost messages;
4. ironclad; tea for two; title match; I.D.

LEARN

NEW KEYS

V  Use the F finger.
P  Use the ; finger.

TECHNIQUE TIP
When using your ; finger to reach for P, keep your right elbow close to your side.

Reach your F finger down and slightly right to key V. Keep your A and S fingers anchored on their home keys. Reach your ; finger up and slightly left to key P. Keep the other right-hand fingers anchored on their home keys.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice v
5. fff fv fv vf fvv vfv vgf fvf fvv vet eve
6. vow van vat vex vote vast vase vest vary
7. ivy ever even envy eave avid alive above

Practice p
8. ;; ;p; pp; ;pp p; pp; ;p ppp pat pad ape
9. pep papa pass pond pane pick paste price
10. sap clap tape press supper paddle puddle

Practice v and p
11. pave peeve prove privy vamp VIP provider
12. vapors viper verve pivot private prevail
13. evil powers oval pools develop viewpoint
14. vampire approve overlap overpaid popover
LESSON 16  

Learn Q and <,>

WARM UP
Key each line twice. Double-space after each pair of lines. Strike each key with the correct finger.

1 as aim aide avid aster ashes adapt adept
2 key kid king kit kiss kiln milks kippers
3 okay lanes lake like lamb Luke live long
4 all alarm call rail raffle river Alabama

NEW KEYS
Q Use the A finger.
< Use the K finger.
The comma is used to separate words and phrases for clearness.

LEARN
Reach your A finger up and slightly left to key Q. Keep your D and F fingers anchored on their home keys. Reach your K finger down and slightly right to key the comma <. Keep your L and ; fingers anchored to their home keys.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice q 5 aa aq aqqa qqa qqa qa qua aqua quad
6 quit quay quite quick quill quilt quaint
7 equip equal squid squad quest quack Que.

Practice , 8 k, kk, ki, jk, A, B, C, D, E, F, G, H, I
9 one, two, three, four; red, white, blue,
10 Joaquin owned a cat, a dog, and a mouse.

Bad Habits
Do not bend your wrists forward, back, left, or right. Keep them relaxed and straight.

Practice q and , 11 quiet, quota, quote, squat, squaw, squib
12 Raquel, quail, squirrel, sequel, conquer
13 equate, equator, Quincy, squares, squirt
14 Queen, quake, quasi, qualm, quirk, quash
LESSON 17

The keyboard shows the keys you have learned so far. This lesson focuses on the keys highlighted in purple.

WARM UP
Key each line twice. Double-space after each pair of lines.

1  fad frail Frank Alfred bug bud bush vast
2  hen Hanna vary very your young yell yelp
3  bevy; pamper; prove; pixie; posh; gladly
4  year, ache, acre, squish, piquant, quint

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice b and y
5  byte ruby abyss shabby tabby bygone days
6  bay birthday yellow belly bully boundary
7  gabby cubby abbey babbly burly hobby buy

Practice v and p
8  vapor vapid pensive pave preview prevent
9  Vice President V.I.P. overpaid passivity
10  Pablo plays the vibraphone very happily.

Practice q and ,
11  Quite, squab, quickens, quibble, quantum
12  Queens, quits, toque, quarrels, quantity
13  Quinn squashed it quickly and then quit.

Practice b y v p q and ,
14  pay pry bypass bumpy pebbly pygmy opaque
15  brave, vinyl, brevity, behave very badly
16  Bowery Boys, Marquis, Beverly, Quasimodo

TECHNIQUE TIP
Make sure your back is straight or tilted slightly forward from the hips.
LESSON 18
Learn Z and : ;

NEW KEYS

Z  Use the A finger.
:  Use Left Shift and the i finger.

The colon (:) is used in numerical expressions and to direct attention to information that follows (as in “For example:”).

WARM UP
Key each line twice. Double-space after each pair of lines. Keep your wrists relaxed and straight.

1 debut past perk park chances dares tries
2 flurry hurry scurry enjoy delays happens
3 salve settles vessel vassal caste create
4 Frasier will pursue a career in finance.

LEARN
Reach your A finger down and slightly right when you key Z. Keep the left-hand fingers anchored on their home keys. Keying the colon is like keying a capital letter. Hold down the Left Shift key and strike :. Then release Left Shift.

SPACING TIP
In a sentence, you use one space after a colon.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice z
5 a az aza zzz aqza za azq zzz zap zoo
6 zoom zest zeal Zen zinc zone cozy zipper
7 Zuni fizz fuzz zigzag zebra zero pizzazz
8 zip quiz fuzzy zigzag zebra zero pizzazz

Practice :
9 ; ; ; ; ; ; Sirs: Ext: As follows:
10 Memo To: From: Date: Subj: RE: CC: ATTN:
11 To Whom It May Concern: Dear Madam: Ref:

Practice z and :
12 Dear Elizabeth: To: Mrs. Dezanne Ziegler
13 Puzzle answer: ZIP Code: Zone: Size: NZ:
14 Zoe: Zora: Oz: Ziggy: Ezra: Zelda: Buzz:
LESSON 19

NEW KEYS

Use the ሺfinger.
The apostrophe (’) has many purposes. Use it to form contractions (don’t) and possessives (John’s).

Use Left Shift and the ሺfinger.
Use quotation marks (“ ”) to enclose direct quotations, to emphasize words, and to display certain titles.

BAD HABITS

Do not hammer your fingers on the keyboard. Strike keys with a light tap.

WARM UP

Key each line twice. Double-space after each pair of lines. Keep your eyes on the page and not on the keyboard.

1. fizz fuzz dizzy gaze buzzer prized gizmo
2. Abbot alley fast has lasts dash flag lab
3. play; pram; pads; my pals; swamps; pique
4. Name: Address: FAX: cars, planes, trains

LEARN

Reach your ሺfinger right to key an apostrophe. Keep the ሺJ ሺK ሺL fingers anchored on their home keys. To key a quotation mark, hold down Left Shift, reach your ሺfinger right, and strike ሺ

PRACTICE

Key each line twice. Double-space after each pair of lines.

Practice ‘
5. ‘; ‘; ‘; ‘; ‘s s’ it’s I’m isn’t aren’t
6. Jill’s Dave’s Omar’s didn’t don’t aren’t
7. isn’t hadn’t should’ve would’ve could’ve

Practice ”
8. ”; ”; ”; ”y” ”A” ”B” ”My Way” ”Okay.”
9. ”Not me.” ”Maybe soon.” ”See you later.”
10. ”Just enough,” she said. ”Oh, we agree.”

Practice ‘ and ”
11. ”It’s Magic” ”Let’s Dance” ”That’s Life”
12. ”Don’t hang up.” ”I’ll call.” ”I’m Sue.”
13. ”Malcolm’s moved the boxes,” Rubin said.
14. It’s the book ”Emma” for Mr. Hu’s class.
15. ”Lillie won’t travel on New Year’s Eve.”
LESSON 20
Learn – and ? /

WARM UP
Key each line twice. Double-space after each pair of lines. Hold your head straight, without leaning it forward or backward.

1 "Let's go pick apples," Sophie proposed.
2 Paul’s parrot piped up, "I'm not Polly."
3 Shipped to: Paul Lopez; PS: Please RSVP.
4 Piper liked papaya; Piper's aunt didn't.

NEW KEYS

- Use the ] finger.
A hyphen (-) is used to divide words between lines. It is also used for compound words.

- Use the ] finger.
A diagonal (/), often called a forward slash, is used in abbreviations, in fractions, and to express alternatives or relationships.

LEARN

To key a hyphen, reach your ] finger up and slightly right and strike -. Keep the J finger anchored on its home key. To key a diagonal, reach your ] finger down and slightly right and strike /-. Keep the other right-hand fingers anchored on their home keys.

PRACTICE
Key each line twice. Double-space after each pair of lines.

Practice -
5 ;p; ;p-p; ;--; ;--; -er one-on-one T-shirt
6 side-by-side, after-effects, part-timers
7 toll-free, good-humored, close-captioned

Practice /
8 ;; //; //;/ ;//;/ a/b I/we he/she East/West
9 true/false, owner/manager, and/or, AM/FM
10 his/her, on/off, either/or, input/output

Practice - and /
11 best-case/worst-case, high-rise/low-rise
12 left-hand/right-hand, mid-week/mid-month
13 paper-thin/see-through, ice-cold/red-hot
14 tax-exempt/tax-sheltered one-way/two-way

SPACING TIP
In normal use, do not space before or after the diagonal.
The keyboard shows the keys you have learned so far. This lesson focuses on the keys highlighted in purple.

**WARM UP**

Key each line twice. Double-space after each pair of lines. Begin with your fingers curled and lightly touching the home keys.

1. brazen shilly-shally sizzle crazy quartz
2. Don's fez, Via: tilt-a-whirl willy-nilly
3. mightn't hadn't "Don't say such things."
4. http://www.si.edu "wall-to-wall" mi./hr.

**PRACTICE**

Key each line twice. Double-space after each pair of lines.

5. Price per dozen: Prize: Size: Zookeeper:
6. Zone: Bronze medal: Tarzan: Waltz: Czar:
7. "Neither a borrower nor a lender be." S.
8. "Don't just say 'Don't' like that's it."
9. street-smart/quick-witted/sharp-sighted;
10. He/she must give a blow-by-blow account.
11. She provides on-site support for E-mail.
12. "door-to-door" 'self-employed' in-house:
13. log-jam low-flying "Long-Range" two-term
14. Zig Lenz: Writer/Producer; life-or-death
15. A day of dappled sea-born clouds. -Joyce

**SPACING TIPS**

Remember: Do not key a space before or after a hyphen in a hyphenated word. Do not key a space before or after a diagonal.
LESSON 22
Learn Caps Lock and ?

WARM UP
Key each line twice. Double-space after each pair of lines. Focus on your technique, not on speed.

1. AR append alternate Aswan Dallas daisies
2. Q.E.D. client-server peer-to-peer hi-res
3. Pass/Fail E/G/B/D/F play-by-play on-site
4. La Paz quizzical A-OK on-again/off-again

NEW KEYS

Use the finger.
Use Caps Lock to key capital letters without pressing Right Shift or Left Shift.

Use Left Shift and the finger.
Use a question mark (?) at the end of a sentence that asks a question.

LEARN

Reach your finger left to press Caps Lock. Keep all other fingers on their home keys. (Once you press Caps Lock, it stays on until you press it again.) The question mark is a shifted diagonal. Press Left Shift, reach your finger down and slightly right, and strike .

PRACTICE
Key each line twice. Double-space after each pair of lines.

5. NBA, NFL, AND NCAA ANNOUNCE RULE CHANGES
6. ASPCA FINDS LOST DOG; ROVER RETURNS HOME
7. IMAGINE: MEN WALK ON MOON; READ ABOUT IT
8. ;/; ;?; :: ?? ?:: ?? ?/??/?? Who? How? Why?
11. VISITOR FROM SPACE? AN ECONOMIC SETBACK?
12. PRESIDENT’S TRIP ON HOLD? TWO TEE TIMES?
13. VIKINGS IN THE NEW WORLD? KENNEWICK MAN?
14. MASSIVE CALCULATION ERRORS TO BLAME? US?
WARM UP
Key each line twice. Double-space after each pair of lines.
1. adamant ACADEMIA adzuki AARDVARK amalgam
2. Alabama Havana Agra Qatar Panama Jamaica
3. La Salle, La Mancha, La Plata, La Spezia
4. aquatic AQUARIUS aqueous AQUILA aqueduct

NEW KEYS
![Tab Key](image)
Use the A finger. Press Tab to align items into columns or to indent text for paragraphs. Tabs are automatically set every half-inch.

Practice
Letters and Tab
5. aba→ bcc→ cdd→ dee→ efe→ ghh→ hii→ ijj
6. jkk→ llm→ mnn→ opo→ qrr→ stt→ uvw→ xyz
7. DMA→ UPS→ CPU→ CRT→ LCD→ IRQ→ KBD→ I/O

Practice
Short Words and Tab
8. all→ ad→ cat→ cot→ dot→ lot→ rot→ not
9. be→ bit→ bat→ do→ to→ tot→ in→ the
10. if→ so→ then→ who→ call→ to→ tell→ me
11. TO→ BE→ OR→ NOT→ TO→ BE→ THAT→ IS

Reach up and left with your A finger to key Tab. Keep the E finger on its home key. Keep your elbows close to your sides.

Practice
Indenting with Tab
Key the following text as a paragraph. Use word wrap. To indent the paragraph, press Tab where you see the arrow.
12. Qatar is an independent Arab state
13. in the Middle East, bordering the
14. Persian Gulf. It is a major exporter of
15. oil and natural gas.
LESSON 24

Review Caps Lock and Tab

The keyboard shows the keys you have learned so far. This lesson focuses on the keys highlighted in purple.

WARM UP

Key each line twice. Double-space after each pair of lines.

1. A diller a dollar, a ten o'clock scholar
2. Everyone's seen a movie, no? We did not.
3. a/b/c/d/e/f/g/h/i/j/k/l/m/n/o/p/q/r/s/t/
4. Del thinks he's all that. Al thinks not.

PRACTICE

Key each line twice. Double-space after each pair of lines. Where you see an arrow, press Tab.

Practice Caps Lock
5. PHASE One; PHASE Two; PHASE Three; RESET
6. MONDAYS, WEDNESDAYS, and FRIDAYS AT NINE
7. Jamal: WISHING YOU A VERY HAPPY BIRTHDAY

Practice ?
8. Who said that? Why? Where is Paul going?
9. Well, which is it? What? You don't know?
10. How are you? Yes? No? Do you? Won't you?

Practice Tab
11. eucalyptus→hemlock→sycamore→larch
12. hickory→dogwood→chestnut→willow

Practice Caps Lock ? and Tab
14. VOL→HIGH→LOW→DATE→OPEN→CHG→YTD→INT
15. ADRIANA, did ALEJANDRO call the station?
16. Narrator: WHO KNOWS WHICH WAY THEY FLED?