## The Consonants of American English

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## How do we describe consonants?

Consonants are sounds in which the air stream meets some obstacles in the mouth on its way up from the lungs, as we learned earlier. Most consonants are not as smooth-sounding as vowels; they pop, hiss, snap, or hum. The table below shows the phonemic symbols for American English consonants. There are alternate symbols for a few of these sounds, but overall, the consonant symbols are very consistent across different versions of the phonemic alphabet, and they are basically the same for American English and British English.

| Consonants of American English |  |  |  |
| :---: | :---: | :---: | :---: |
| Example | Symbol | Example | Symbol |
| pot | $/ \mathrm{p} /$ | shop | $/ \mathrm{s} /$ or $/ \mathrm{s} /$ |
| book | $/ \mathrm{b} /$ | beige | $/ 3 /$ or $/ \mathrm{z} /$ |
| take | $/ \mathrm{t} /$ | house | $/ \mathrm{h} /$ |
| dog | $/ \mathrm{d} /$ | chip | $/ \mathrm{f} /$ or $/ \mathrm{č} /$ |
| cat | $/ \mathrm{k} /$ | jump | $/ \mathrm{s} /$ or $/ \mathrm{j} /$ |
| good | $/ \mathrm{g} /$ | man | $/ \mathrm{m} /$ |
| fun | $/ \mathrm{f} /$ | now | $/ \mathrm{n} /$ |
| very | $/ \mathrm{v} /$ | sing | $/ \mathrm{y} /$ |
| thick | $/ \theta /$ | lamp | $/ \mathrm{l} /$ |
| then | $/ \mathrm{J} /$ | road | $/ \mathrm{r} /$ |
| sun | $/ \mathrm{s} /$ | win | $/ \mathrm{w} /$ |
| zoo | $/ \mathrm{z} /$ | you | $/ \mathrm{y} /$ or $/ \mathrm{j} /$ |
| (why) | (/hw/) | Most speakers of English don't use <br> /hw/ as a separate phoneme. They <br> use /w/ instead. |  |

Most words in English contain at least one consonant, and some contain many more. For example, at and she each contain one consonant sound, play contains two, and spring contains four. (Remember that we're counting the consonant sounds, not the consonant letters.) But words don't have to have any consonants at all. For example, the words I, $a$, and oh have no consonant sounds-only vowels.

Phonologists classify consonants by describing these three sets of categories:

- Voicing
- Place of articulation
- Manner of articulation


## Voicing

When the vocal cords are stretched tight so that they vibrate during the pronunciation of a sound, we say that the sound is voiced. Sounds that are produced without vibration of the vocal cords are called voiceless. To tell if a sound is voiced or voiceless, touch your throat gently as you say it. When you say a voiced sound, you can feel a vibration or buzzing in your throat. For a voiceless sound, you can't. You can also feel the voicing of sounds by putting your fingers in your ears. When you say a voiced sound, it will seem louder. When you say a voiceless sound, it won't.

When you do this with students, try to say only the sound you're listening to, without a vowel after it. For example, to practice /t/, say only /t/, not /tz/ or /tiy/. If you pronounce a vowel after $/ \mathrm{t} /$, the voiced vowel will cause vibration and students will be confused and might mistakenly think that /t/ is voiced.

Many of the consonants of English form pairs-a voiced and a voiceless sound that are the same except for voicing. For example, /b/ and /p/ are identical except that /b/ is voiced and $/ \mathrm{p} /$ is voiceless. (Notice that one of these pairs-the voiceless sound $/ \theta /$ and the voiced sound $/ \delta /$-are both spelled with the same two letters: th.) However, the voiced sounds $/ \mathrm{m} /, / \mathrm{n} /, / \mathrm{y} /, / \mathrm{l} /$, /r/, /w/, and /y/ have no voiceless counterparts, and the voiceless sound $/ \mathrm{h} /$ has no voiced counterpart.

The box on the next page shows the voiced and voiceless consonant sounds of English. Paired sounds in boxes next to each other. If a sound has a gray box next to it, it has no paired sound.

| Voicing of English Consonants |  |  |  |
| :---: | :---: | :---: | :---: |
| Voiced Consonants |  | Voiceless Consonants |  |
| /b/ | big | /p/ | pen |
| /d/ | dog | /t/ | top |
| /g/ | give | /k/ | cat |
| /v/ | vote | /f/ | food |
| / $/$ | this | / $\theta /$ | thick |
| /z/ | zoo | /s/ | sun |
| /3/ | beige | /S/ | ship |
|  |  | /h/ | house |
| /d3/ | juice | /t ${ }^{\text {/ }}$ | chip |
| /m/ | man |  |  |
| /n/ | now |  |  |
| / $\mathrm{y} /$ | sing |  |  |
| /1/ | love |  |  |
| /r/ | run |  |  |
| /w/ | wet |  |  |
| /y/ | yes |  |  |

## Place of articulation (Where?)

We can also classify consonants by referring to the parts of the articulatory system that are active when we produce each sound. This is called the place of articulation. As you can see in the list below, some of these terms are similar to the names of the parts of the articulatory system that are used in making them.

- Bilabial: Both lips touch or almost touch. The sounds in this group are /p/, /b/, /m/, and /w/.
- Labiodental: The upper teeth softly touch the lower lip. The sounds in this group are /f/ and /v/.
- Dental (also called interdental): The tip of the tongue touches the bottom edge of the top teeth or between the teeth. The sounds in this group are $/ \theta /$ and $/ \delta /$.
- Alveolar: The tip of the tongue touches or almost touches the alveolar ridge (the tooth ridge). The sounds in this group are $/ \mathrm{t} / \mathrm{} / ,\mathrm{d} /, / \mathrm{s} /, / \mathrm{z} /, / \mathrm{n} /$, and $/ \mathrm{l} /$.
- Palatal (also called alveopalatal): The blade of the tongue touches or almost touches the hard palate. The sounds in this group are $/ \mathrm{s} /, / 3 /, / \mathrm{f} / \mathrm{l} / \mathrm{h} /, \mathrm{r} /$, and $/ \mathrm{y} /$.
- Velar: The back of the tongue touches the soft palate. The sounds in this group are $/ \mathrm{k} / \mathrm{g} / \mathrm{g} /$, and $/ \mathrm{y} /$.
- Glottal: There is friction in the glottis (the space between the vocal cords). The only phoneme in this group is $/ \mathrm{h} /$.


## Manner of articulation (How?)

There is often more than one sound that is pronounced in the same part of the mouth, that is, with the same place of articulation. To distinguish between these similar sounds, we can describe their manner of articulation. This tells how we produce a particular consonant sound-whether it comes out smoothly or roughly, whether it's like a pop or a hiss or a hum. The manners of articulation for English consonants are listed below.

- Stops (also called plosives): The air stream is blocked completely somewhere in the mouth, air pressure builds up, and then it's released, like a tiny explosion. The stops in English are /p/, /b/, /t/, /d/, /k/, and /g/.
- Fricatives: The air stream is compressed and passes through a small opening in the mouth, creating friction-a hissing sound. The air stream is never completely blocked, so the sound can continue. The fricatives are $/ \mathrm{f} / \mathrm{/} / \mathrm{v} / \mathrm{l} / \mathrm{\theta} / \mathrm{/} / \mathrm{\delta} / \mathrm{l} / \mathrm{s} /, / \mathrm{z} /$, $/ \mathrm{f} / \mathrm{l} / \mathrm{3} /$, and $/ \mathrm{h} /$.
- Affricates: A combination of a stop followed by a fricative-an explosion with a slow release. The affricates are $/ \mathrm{t} /$ / and $/ \mathrm{G} /$. Each of these symbols is made up of two parts-a stop symbol and a fricative symbol. This reminds us that the sounds also have two parts.
- Nasals: In these sounds, the tongue or lips block off the vocal tract so air can't go out through the mouth. Instead, the passage leading up into the nose opens so that the air stream can go out through the nose. The sounds in the nasal group are $/ \mathrm{m} /$, $/ \mathrm{n} /$, and $/ \mathrm{y} /$.
- Liquids: These are sounds that are pronounced very smoothly, like water flowing in a river. The air stream moves around the tongue in a relatively unobstructed manner. The liquid sounds in English are /l/ and /r/.
- Glides (also called semivowels): A glide is like a very quick vowel. For this reason, they're sometimes called semivowels, which means "half-vowels." They sound like vowels, but they can function as consonants. The glides in English are /w/ (which sounds like a quick /uw/) and $/ \mathrm{y} /$ (which sounds like a quick /iy/).


## Summary: The consonants of English

| Classification of American English Consonant Phonemes |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Place of Articulation |  |  |  |  |  |  |
| Manner of Articulation | Bilabial | Labiodental | Dental | Alveolar | Palatal | Velar | Glottal |
| Stop <br> Voiceless <br> Voiced | $\begin{aligned} & \text { /p/ } \\ & \text { /b/ } \end{aligned}$ |  |  | $\begin{aligned} & \text { /t/ } \\ & \text { /d/ } \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \text { /k/ } \\ & \text { /g/ } \end{aligned}$ |  |
| Fricative <br> Voiceless Voiced |  | $\begin{aligned} & \text { /f/ } \\ & \text { /v/ } \end{aligned}$ | $\begin{aligned} & \text { / } \theta / \\ & / \delta / \end{aligned}$ | $\begin{aligned} & \text { /s/ } \\ & \text { /z/ } \end{aligned}$ | $\begin{aligned} & 15 / \\ & / 3 / \end{aligned}$ |  | /h/ |
| Affricate <br> Voiceless Voiced |  |  |  |  | $\begin{aligned} & \text { / } \mathrm{f} / \\ & \hline \mathrm{C} / \\ & \hline \end{aligned}$ |  |  |
| Nasal Voiced | /m/ |  |  | /n/ |  | /g/ |  |
| Liquid Voiced |  |  |  | /1/ | /r/ |  |  |
| Glide Voiced | /w/ |  |  |  | /y/ |  |  |

## An almost-extinct consonant sound: /hw/

Most speakers of English today pronounce the first sounds in weather and whether in the same way: as the voiced glide /w/. However, until fairly recently, these were two separate sounds. Words like weather, woman, and wish started with a voiced /w/, and most words spelled with "wh," like whether, which, and what, started with a different sound, a voiceless glide that can be represented by the symbol/hw/. Gradually the /hw/ sound has been going out of use. Today the main areas where many people distinguish these two sounds are Scotland, parts of Ireland, and some parts of the Southern United States. In other areas, some speakers may differentiate between /w/ and /hw/, but most people don't. For pronunciation teaching purposes, it's not necessary to teach students to use the /hw/ sound unless your textbook teaches it.

## Restrictions on where some consonants can occur

Most consonants can appear in all positions in words: At the beginning, in the middle, or at the end. However, some consonants cannot occur in all positions in words:

- /y/: The consonant $/ \mathrm{y} /$ cannot begin a word in English, but there are many words that have it in the middle or at the end: singer, think, song, tongue.
- /3/: English has only a few borrowed words that begin with the consonant /3/, (genre may be the only common one) and only a small number that end in this sound (beige, garage, prestige). It is more often found in the middle of words: usual, measure, leisure, vision.
- $/ h /:$ The sound $/ h /$ cannot occur at the end of a word. When we see the letter $h$ at the end of a word, it is either silent (oh, hurrah) or part of a two-letter combination that spells a different sound (rich, fish, tooth).


## Syllabic consonants

In general, every syllable needs a vowel to serve as its "heart." However, sometimes we can have a syllable with no vowel if a consonant stretches out longer to replace the vowel. Only a few consonants are able to do this: $/ \mathrm{n} /, / \mathrm{l} /$, and $/ \mathrm{r} /$.

The phonemes /n/ and /l/ most often become syllabic after a stressed syllable that ends in an alveolar consonant: Kítten, bútton, dídn’t, shóuldn't, kéttle, líttle, ládle, túnnel. (Keep reading to find out about how the /t/ sound can change when a syllabic /n/ comes after it.)

In American English, /r/ often acts like a vowel sound in words like her, learn, word, water, and butterfly. In the syllables written in red in these words, we only hear the $/ \mathrm{r} /$ sound with no separate vowel before it. This is different from words like wear, wore, hear, or tired, where we can clearly hear a separate vowel before /r/. Many textbooks use the symbol $/ \mathrm{J}^{\prime} /$ or $/ 3^{\circ} /$ to represent this "syllabic $/ \mathrm{r} /$," while others use a double symbol like /ər/ or /3r/.

## Allophones of some consonant phonemes

Some consonants are pronounced differently depending on where they are in a word and what sounds are around them. (That is, some consonant phonemes have more than one allophone, depending on their phonetic environment.) Let's look at the consonant variations in American English that are most important for you to know about as a teacher:

Allophones of voiceless stops: In English, the three voiceless stops, /p/, /t/, and /k/, have allophones that follow the same pattern. (The phoneme /t/ also has some extra allophones.)

When $/ \mathrm{p} /, / \mathrm{t} /$, and $/ \mathrm{k} /$ come at the beginning of a word or at the beginning of a stressed syllable, they are aspirated. That is, they are pronounced with a small puff of air. We can
represent these sounds by adding a small " h " to the phonemic symbol:

- [ $\left.\mathrm{p}^{\mathrm{h}}\right]$ pan, price, potáto, appéar
- [ $\left.\mathrm{t}^{\mathrm{h}}\right]$ top, táble, togéther, atténd
- [k $\left.{ }^{\mathrm{h}}\right]$ can, kéttle, compúter, accúse

When $/ \mathrm{p} /, / \mathrm{t} /$, or $/ \mathrm{k} /$ are in a consonant cluster after $/ \mathrm{s} /$ at the beginning of a word or syllable, they are unaspirated. There is no puff of air when we say them. To represent these sounds, we don't add anything to their phonemic symbols.

- [p] span, spécial, spring
- [t] stop, stáple, string
- [k] scan, scátter, screen

When $/ \mathrm{p} /, / \mathrm{t} /$, or $/ \mathrm{k} /$ comes at the end of a word, it is often (but not always) unreleased. This means that we start to say the sound by blocking off the air flow, but we don't release the air. We add a small circle to the phonemic symbol to represent these sounds.

- [ $\mathrm{p}^{\circ}$ ] stop, hope, devélop
- [t] coat, late, básket
- [k] back, lake, stómach
(The rules we have just looked at only apply to voiceless stops (/p/, /t/, /k/). Voiced stops in English (/b/, /d/, /g/) are never aspirated. They don't have a puff of air in any position.)

In addition to these sound variations that work the same way for all voiceless stops, in American English, /t/ has more allophones that /p/ and /k/ don't have.

The first "extra" allophone of /t/ is the sound that we usually hear in American English in the middle of words like water, city, and bottle. This is a voiced sound. The tongue taps the alveolar ridge very quickly, so that it sounds like a quick /d/. It's called an alveolar flap or tap, and it's represented by this symbol: [r]. It's like the sound represented by the letter " r " in Spanish and many other languages, but it's different from an English /r/. (For an English /r/, the tongue doesn't touch the alveolar ridge. For the flap, it does.)

When words are pronounced with [r], some words with /t/ sound just like words with /d/:

- Látter and ládder sound the same.
- Wríting and ríding sound the same.
- Métal and médal sound the same.

When do we pronounce /t/ as a flap? We say it this way only when two things happen:

- When /t/ comes between two vowels (or vowels followed by $/ \mathrm{r} /$ ).
- When the syllable before it is stressed, and the syllable after it is unstressed.

Look at the examples in the table below. When the stress is before the /t/ sound, it's a flap. When the stress is after $/ \mathrm{t} / \mathrm{/} / \mathrm{t} / \mathrm{is}$ not a flap.

| Examples of Flaps and Glottal Stops |  |  |
| :---: | :---: | :---: |
| "normal" /t/ | /t/ is a flap | $/ \mathrm{t} /$ is a glottal stop |
| betwéen | bútter | bútton |
| atómic | átom | sátin |
| fourtéen | fórty | impórtant |
| retúrn | réticent | rétina |
| patérnal | páttern | pátent |
| máster | mátter | Manháttan |

The second "extra" allophone of / $\mathbf{t}$ / is a glottal stop, represented by this symbol: [?]. To produce this sound, the vocal cords close tightly, air builds up behind them, and then they open quickly. It's like the beginning of a small cough, or the middle sound when we say huh-uh to mean "no."

The phoneme /t/ can be pronounced as a glottal stop when two things happen:

- When the syllable before it is stressed and the syllable after it is unstressed.
- When the syllable after it is / $\mathrm{n} /$ or syllabic / $\mathrm{n} /$. (That is, /ə/ disappears and /n/ is lengthened and becomes a whole syllable. The symbol for syllabic /n/ is [n].)

Examples of words in which this happens are listed in the table above.
It's not absolutely necessary for learners to pronounce the flap [r] or the glottal stop [?] allophones of $/ \mathrm{t} /$, but they need to understand them when they hear them. And in normal American English speech, they will hear them often.

Light and dark $/ 1 /:$ The consonant $/ 1 /$ is traditionally said to have two allophones: "light" or alveolar $/ 1 /$ (with the symbol [1] ) and "dark," or velarized $/ 1 /$ (with the symbol [ 1$]$ ), occurring in different positions:

- [1] (light /l/) is found at the beginning of a syllable, especially before front vowels, in words like light, left, and believe. It is pronounced with the tongue touching the alveolar ridge and the sides of the tongue open.
- [ł] (dark $/ \mathrm{l} /$ ) is found at the end of syllables and before back vowels, in words like low, ball, and pool. It is also pronounced with the sides of the tongue open, but with the tongue higher at the back of the mouth. The tip of the tongue might or might not touch the alveolar ridge. In some dialects, particularly some types of British English, dark /l/ sounds almost like /o/ or /u/.

However, in the speech of most Americans, the difference between these two allophones is small, and some Americans don't make this distinction at all. Instead, they pronounce a sound that's similar to a dark $/ 1 /$, but with the tongue touching the alveolar ridge, in all positions. Because of this, if your pronunciation model is American English, the distinction between dark and light $/ 1 /$ does not need to be a high priority. You and your students have more important things to think about.

## Consonant Clusters

Consonant clusters are groups of two or more consonant sounds in a row, as in spot, strong, desk, desks, or sister. It's important to remember that we're talking about groups of consonant sounds, not consonant letters. These are not always the same thing. For example, ship and sing each have groups of two consonant letters, but each group represents only one sound $\left(s h=/ \int /\right.$ and $n g=/ \mathrm{y} /$ ). On the other hand, the letter $x$ as in six represents a consonant cluster of two sounds: /ks/.

Consonant clusters in English can occur at the beginning, middle, or end of words. There are restrictions on how many consonants can occur in a particular position, and which consonants can occur together. For example, /sk/ as in sky, /pl/ as in play, and /spr/ as in spring are all possible consonant combinations at the beginning of a word in English, but /sd/, /fp/, and /zpr/ are not. There just aren't any words that start with those combinations of sounds.

At the beginning of words: In English, we can find words and syllables that begin with one, two, or three consonants, but never more than three.

In initial clusters with two consonants, we can find the combinations listed in the table below. Notice that while some of these words begin with only one consonant letter, they actually have two consonant sounds. For example, cute, beauty, pure, few, and huge all begin with one written consonant, followed by an "invisible /y/" and the vowel sound
/uw/. We hear a /y/ sound, which counts as a consonant, even though there's no letter $y$. (For example, cute is pronounced /kyuwt/, not /kuwt/.) In words like quick, quiet, and question, the letters $q u$ stand for the consonant cluster $/ \mathrm{kw} /$.

| Two-consonant clusters |  |  |
| :---: | :---: | :---: |
| First Sound | Second Sound | Examples |
| /p/ | /l/, /r/, /y/ | Play, pray, pure |
| /b/ | /1/, /r/, /y/ | Blue, brown, beauty |
| /t/ | /1/, /r/, /w/, /y/ | True, twin, (tune) |
| /d/ | /1/, /r/, /w/, /y/ | Draw, dwell, (due) |
| /k/ | /l/, /r/, /w/, /y/ | Close, crowd, queen, cure |
| /g/ | /l/, /r/, /w/ | Glow, green, [Gwen] |
| /f/ | /l/, /r/, /y/ | Fly, free, few |
| / $\theta /$ | /r/, /w/ | Three, [thwart] |
| /s/ | $\begin{array}{\|l} \hline / \mathrm{l} / \mathrm{/} / \mathrm{w} /, / \mathrm{m} /, / \mathrm{n} / \text {, } \\ / \mathrm{p} /, / \mathrm{t} / \mathrm{l} / \mathrm{k} / \\ \hline \end{array}$ | Sleep, swim, smile, snow, speak, stop, skate |
| Words in () = Many people pronounce these them without $/ \mathrm{y} /$. <br> Words in [ ] = Very few words begin with this combination. |  |  |

When three consonants come together at the beginning of a syllable, we find fewer possible combinations. The first consonant is always $/ \mathrm{s} /$, the second is a voiceless stop, and the third is a liquid or glide. However, not all of these combination actually occur, and some are very uncommon. The table below lists possible three-consonant combinations at the beginning of syllables.

| Three-consonant clusters |  |  |  |
| :---: | :---: | :---: | :---: |
| First Sound | Second Sound | Third Sound | Examples |
| /s/ | /p/ | /l/, /r/, /y/ | Splash, spring, spew |
|  | /t/ | /r/, /y/ | String, (stew, stupid) |
|  | /k/ | /l/, /r/, /w/, /y/ | [Sclerosis], scrap, squirrel, skewer |
| Words in () = Many people pronounce these them without $/ \mathrm{y} /$. <br> Words in [ ] = Very few words begin with this combination. |  |  |  |

At the ends of words, we can have one, two, three, or four consonants together. Some of the longer clusters are in words with the grammatical endings -s or -ed, which add an extra sound. Here are some examples of words ending in two-consonant clusters:
help, felt, old, milk, shelf, curb, art, cord, mark, bump, ant, hand, tense, ranch, sink, else, bulge, course, march, arm, barn, girl, wasp, trust, ask, soft, act, tax, fourth

Here are examples of words ending in three-consonant clusters:
text, sixth, exempt, waltz, world, glimpse, quartz, against
Some words end in four-consonant clusters because a grammatical ending has been added: texts, sixths, exempts, waltzed, worlds, glimpsed

## Simplification of consonant clusters

We generally encourage students to pronounce every sound in a consonant cluster. However, there is one situation when it's acceptable to simplify a consonant cluster, that is, to omit one of the consonants. When there are three or more consonants in a row, the middle one is sometimes dropped. (The first or last consonant is not dropped.) This happens most often when the middle consonant is a stop, $/ \theta /$, or $/ \delta /$. For example:

- tests might sound like /tzsts/ or /tzs/
- asked might sound like /æskt/ or /æst/
- months might sound like /m^n $\theta$ s/ or /m^ns/
- sixths might sound like /sıksӨs/ or /sıks/

Native speakers are often not aware that they're omitting these sounds. However, these pronunciations are very common and are found in all but the most careful types of speech.

Another way native speakers make consonant clusters easier to pronounce is by resyllabification. That is, they split up a consonant cluster so that the last consonant in the cluster joins the syllable after it. For example, when we say: The cats are sleeping, the final /s/ in cats sounds like it joins the following word: The cat sare sleeping.

## Some learner problems with consonants

Learners' problems in pronouncing new sounds vary depending on the sound system of their native language. To predict the kinds of problems their students might have, teachers need at least a basic knowledge of the sound system of the learners' language. But whatever the student's language, the general types of problems can be similar. Some sources of problems can be:

New sounds: When learners try to pronounce a sound that doesn't exist in their own language, it's naturally difficult, and they may substitute a similar (but not identical) sound from their own language. For example, many languages don't contain the phonemes $/ \theta$ / or $/ \delta /$, so speakers of those languages often have a hard time hearing and distinguishing these new sounds. When they try to say the new sounds, they often substitute more familiar sounds, like $/ \mathrm{s} /$, /f/, or $/ \mathrm{t} /$ for $/ \theta /$ and $/ \mathrm{z} /$, $/ \mathrm{v} /$, or $/ \mathrm{d} /$ for $/ \mathrm{J} /$. It's important to help students hear and understand that there actually is a difference between the new sounds and the familiar first-language sounds so they can begin to pronounce the new sounds more accurately. If we allow learners to assume that the new sounds are identical to sounds in their own language, they will have little chance of pronouncing new sounds well.

Familiar sounds in unfamiliar environments: There can also be sounds that are easy for learners to pronounce in some phonetic environments, but difficult in others. For example, the glide /w/ is not a serious problem for Japanese or Korean speakers when followed by most vowels. Saying wet, way, or wine is not hard. However, when /w/ is followed by /uw/ or /u/, it's more of a problem. Words like woman, wood, and woo are a pronunciation challenge. This is because those languages have sound combinations similar to /wi/ /we/, and /wa/, but not combinations like /wu/. The fact that the sounds of /w/ and /uw/ are very similar can also make it hard for learners to pronounce them in sequence, and wood can end up sounding like /uwd/. The same situation happens with /y/ before the similar vowel sounds /iy/ and /I/. It's hard for many learners to distinguish year and ear or yeast and east.

Final consonants: Consonants at the ends of words are often more troublesome than the same consonants at the beginnings of words. This is especially true for students whose native language does not allow any consonants at the ends of words, or perhaps only a limited set of consonants.

When learners have trouble pronouncing final consonants, they cope in different ways, depending partly on their language background. Speakers of some languages tend to omit final consonants. For example, they might pronounce meet as /miy/ or back as /bæ/. Speakers of other languages might add an extra vowel after the final consonant, pronouncing meet as /miytə/ or back as /bæku/.

Another problem with final consonants affects speakers of languages such as German and Russian, where final stops, fricatives and affricates (together called obstruents) are always voiceless, even if they're spelled with letters that normally represent voiced sounds. For example, the German word Hand (meaning hand) is pronounced /hant/, not /hand/. When speakers of these languages pronounce English words that end in voiced obstruents, they
may substitute voiceless sounds instead.
Because all these changes fit the familiar patterns that the learners are used to using in their own language, they don't realize that they're changing anything. They unconsciously reshape new words to fit the comfortable pattern of their own language.

Consonant clusters: Languages also have different restrictions on what kinds of syllables and consonant combinations are possible. Some languages don't have consonant clusters at all. Others have fewer clusters than English, or they allow different combinations of consonants. Learners whose languages have different syllable structure rules than English may have trouble pronouncing some words with consonant clusters.

Learners cope with unfamiliar consonant clusters in different ways. They might omit one or more of the consonants. For example, they might pronounce section as /sefən/ or spring as /spin/ or /pıy/. Other learners add an extra vowel before or between the consonants. For example, school might become /eskuwl/ or spring might become /supuriy/.

All of these are changes that learners unconsciously produce to make words more comfortable and easier to pronounce. However, they also make it much harder for listeners to understand what the speaker is trying to say. Teachers need to help students understand and practice the patterns of English syllable structure to make their speech more understandable.

## Some consonant sounds that often cause problems

Let's look in more detail at a few of the consonant sounds that are difficult for some learners.
$/ \mathbf{r} /$ : When pronouncing $/ \mathrm{r} /$, the lips are a little bit rounded, and the tip of the tongue does not touch the roof of the mouth. (This is different from sounds spelled with the letter $r$ in some other languages. The /r/ sound in both American and British English is not a flap or a trill, as it is in Spanish, Russian, Arabic, and many other languages.)

Some speakers of English pronounce /r/ with the tip of the tongue curled up a bit. Others say it with the back of the tongue pulled back and bunched up, without curling the tip. Both ways can produce the same sound, and students should use the way that produces the best results for them.

$/ r /$ with the tongue curled

$/ r /$ with the tongue pulled back
$/ 1 /$ : As we read earlier, when we say $/ 1 /$, the tip of the tongue touches the alveolar ridge, but the sides of the tongue are open, so air can flow around the tongue. Unlike $/ \mathrm{r} /$, the lips are not rounded when we say $/ 1 /$.

Here's one way to feel the difference between $/ \mathrm{r} /$ and $/ \mathrm{l} /$ : Say $/ \mathrm{r} /$ and stop in the middle of the sound, keeping your mouth and lips in position. Then breathe in hard. The air rushing into your mouth should make the underside of the tip of your tongue feel cold. Now say $/ 1 /$, again stopping in the middle of the sound and breathing in. Now the sides of your tongue should feel cold air. If a different part of your tongue feels cold, something may be wrong.

Learners can also check their pronunciation using a mirror. When they say $/ \mathrm{r} /$, their lips should be a bit rounded, and they should be able to see a little of the underside of their tongue. When they say $/ 1 /$, their lips should not be rounded, and they should see just the tip of their tongue.
/f/ and /v/: In pronouncing both /f/ and /v/, the top teeth gently touch just inside the lower lip, and air passes out under the teeth. Many students have been told to "bite their lip" when they say /f/ and /v/. This gives them a rough idea of where to put their teeth and lower lip, but it's a bit extreme for real speech. If students put their teeth too far forward on their lower lip or bite too hard, it will be hard to get enough air coming through to make the sound properly.


Usual pronunciation of /f/ or /v/

"Bite your lip." This is too much.

Speakers of languages that do not have labiodental sounds may substitute the bilabial /b/ for /v/, and some also substitute /p/ for /f/. If this happens, and the speaker's lips really want to close when they say /f/ or /v/, have them put a finger on their top lip to hold it up out of the way. This makes it easier for just the top teeth to touch the lower lip.

If students look in a mirror while saying /f/ or /v/, they should be able to see their teeth just a bit. If their lips are closed, or if they're too close together to see their teeth, they're not saying the sounds correctly.
$/ \theta /$ and $/ \delta /$ : In pronouncing $/ \theta /$ and $/ \delta /$, the tip of the tongue gently touches the back or bottom of the top teeth. For these sounds, students may have been told to "bite your tongue" or "stick out your tongue." Again, this is a good hint for giving students a feeling of where to put their tongues, but in normal speech, the tongue doesn't stick all the way out of the mouth.


Usual pronunciation of / $\theta /$ or / $\% /$

"Bite your tongue." This is too much.

When looking in a mirror while saying $/ \theta /$ or $/ \delta /$, you should see just a bit of your tongue, not your whole tongue sticking out.

Learning to pronounce new consonant sounds can be challenging, and it won't happen all at once. It takes time for students to learn to recognize new sounds and get used to moving their mouths in strange new ways to produce them.

## Sagittal section diagrams for English consonants


/p/ (pan), /b/ (boy)

/f/ (fan) and /v/ (van)

$/ \int /$ (ship) and $/ 3 /$ beige

/t/ (time) and /d/ (dime)

$/ \theta /$ (thick) and $/ \delta /$ (the)

/h/ (house)

/k/ (cap) and /g/ (gap)

/s/ (sue) and /z/ (zoo)

/t $/$ / (chip) and /b/ (jam)

/m/(man)

/l/ (land)

/w/ (win)

/n/ (no)

$/ \mathrm{y} /(\operatorname{sing})$

/y/(yes)

