

## LEARNING VOWELS

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If you want to speak a different language, or speak in a different accent, you will need to use different vowels from the ones you normally use. This document tells you how to make any required vowel in any language or accent. It does this by teaching you how to make nine *reference vowels*, and by explaining the mechanisms that produce them. You can then use these mechanisms to produce any required vowel in any language or accent.

### 1. Specifying vowels

The sound of a vowel is determined by three factors: whether or not the lips are rounded, the shape of the tongue, and the position of the tongue. (A possible fourth factor, whether or not the vowel is sounded partly through the nose, can be disregarded for present purposes.)

#### 1.1. Lip rounding

Rounding the lips means pulling their corners towards the middle so that the mouth forms an O. Lip rounding is clearly a continuum: the lips can be fully spread, fully rounded, or somewhere in between. For present purposes, however, we need only distinguish between unrounded lips (the corners not drawn in at all) and rounded (the corners drawn in to a moderate degree).

#### 1.2. Tongue shape

When speakers make vowel-sounds, they tense one part of the tongue, making a hump that is higher than any other part of the tongue. 'The shape of the tongue' refers to this hump. So a 'front' vowel is one made by tensing and raising the front of the tongue (or to be more precise, the part behind the blade), a 'central' vowel is made by tensing and raising the central band across the tongue, and a 'back' vowel is made by tensing and raising the back of the tongue.

#### 1.3. Tongue position

The tongue can be positioned high or low in the mouth. A 'close' vowel is one where the hump of the tongue is held high in the mouth, and an 'open' vowel is one where the hump of the tongue is held low in the mouth.

The shape and position of the tongue, like lip rounding, are on a continuum - any part of the tongue can be tensed, and the hump can be placed anywhere in the mouth. Moreover, small differences make significant differences to the sounds of the vowels. So we need some way of notating the shape and position of the tongue, to represent different vowels. This is done on a *vowel-chart* (see the accompanying chart).

### 2. The vowel-chart

The vowel-chart shows a blob and a phonetic symbol for each vowel, and has grid-lines that mark standard positions.

The left of the chart represents the front of the mouth, and the right of the chart represents the back of the mouth; the top and bottom of the chart represent the roof and floor of the mouth respectively. So a blob on the left of the chart

represents a vowel for which the front of the tongue is humped, and a blob on the right of the chart represents a vowel for which the back of the tongue is humped. Likewise a blob at the top represents a vowel made with the tongue-hump near the roof of the mouth, and a blob at the bottom of the chart represents a vowel made with the tongue-hump near the floor of the mouth. Since the tongue can move anywhere in the mouth, a blob can be placed anywhere on the chart to represent that tongue position. Here we're concerned only with the nine blobs shown.

It's convenient to have standard named positions on the chart for particular degrees of high and low, front and back. The three degrees of frontness and backness are called *front*, *central* and *back*; the four degrees of height are called *close*, *close-mid*, *open-mid* and *open*.

Each blob on the vowel-chart has a printed letter - the *symbol* for that vowel - associated with it. If the symbol is to the left of its blob, the vowel is *unrounded* (i.e. made without lip rounding). If the symbol is to the right of its blob, the vowel is *rounded*.

From these standard terms we can derive a *three-word description* for each vowel. The vowel at the top left of the chart, for example, is a *close front unrounded* vowel; the one at the bottom right is *open back unrounded*, and the second one down on the right is a *close-mid back rounded* vowel. This three-word description constitutes the specification for that vowel.

### 3. Making vowels

Now it's time to make some vowels.

#### 3.1. First steps

1. Spread your lips, tense the part of your tongue behind the blade, lift your tongue up near your gum-ridge and say the *ee* in *cheese*. This is the vowel at the top left of the chart. Check your version against the recording. (The recording plays all nine vowels, working down the left-hand side of the chart, up the right-hand side of the chart, and ending with the vowel in the middle.)

2. Still with spread lips, squeeze the back of your tongue up into a ball, open your jaw to drop your tongue to the floor of your mouth, and say a deep 'ah!' as for the doctor. This is the open back unrounded vowel at the bottom right of the chart. Check it against the recording (it's the fifth vowel in the sequence).

3. Now make the vowel at the bottom left of the chart - lips spread, the front of the tongue tense, and the tongue on the floor of the mouth. Check the sound against the recording (fourth vowel in the sequence).

4. Fourthly, say the *oo* of *moon* in a plummy, old-fashioned, actorish, south-of-England voice. You will find your lips are rounded, the back of your tongue is tense, and your tongue is lifted up to the back part of the top of your mouth. This is the vowel at the top right of the chart. (Check it against the recording - eighth vowel in the sequence.)

The four vowels above were in extreme positions - as close or open, front or back as possible. For the next four vowels you have to place your tongue in intermediate positions, which is more difficult.

5. Say alternately the vowel at the top left of the chart and the one at the bottom left, until you can feel your tongue dropping and rising again for the full extent of its travel, but always staying tense at the front. Now say the vowel at the top left, then drop the tongue a little to make the second vowel down on the left, then a little more to make the third vowel down on the left, then down again to arrive at the vowel at the bottom left.

- You may find that you don't have enough space to fit in all four vowels. The reason for this is likely to be that, in your normal accent, you don't make two different vowels between the top and the bottom, but only one. So, to make one of these two intermediate vowels, you have to find a tongue position that you've never used before, between two tongue positions that you use all the time. This may take some persistence, and some slow and careful work initially. Copying the recording will help.

- Scottish-speaking learners normally have the first, second and fourth vowels, and can't find the third; speakers from the south of England have the first, third and fourth, and can't find the second. At least this proves that all four exist! If your first language is French, you'll have all four anyway.

6. Now deal in the same way with the four vowels on the right of the chart. Again, you'll probably need to find new tongue positions, ones that you don't use in your normal accent. Note also that the bottom vowel on the right is unrounded, but that the three vowels above it are all made with rounded lips.

7. The ninth vowel, the one in the middle of the chart, is made by tensing the middle of the tongue and positioning it exactly half-way between the roof and the floor of the mouth.

### 3.2. Concentrated practice

#### 3.2.1. With voiceless breath

For more concentrated practice, make the vowels with voiceless breath, as follows:

1. Configure the tongue and lips, then breathe gently out as if whispering (i.e. with no vibration of the vocal chords). Make sure you can feel the breath passing over your tongue; you will also hear a resonance in the whisper, which will be different for each vowel.

2. Make sure you can keep your tongue and lips steady, frozen in place, while you exhale a long breath. If you move them you will feel a movement in your muscles, and also hear a change in resonance.

3. Now, instead of just passing breath, but still keeping your tongue and lips in position, sing gently. You should hear the sound of the vowel you're trying to make. Check it against the recording.

4. If you get the tongue shape or position slightly wrong, the vowel will sound different, and you will need to adjust it by raising or lowering the tongue-hump or moving it forward or back. With experience, you can use your knowledge of how these adjustments affect the sound of a vowel to identify and produce other vowels in your chosen language or accent.

### 3.2.2. Vowels at the same height

Another way of practising is to work on pairs of vowels at the same height. Start with the front vowel and move the tongue-hump slowly back along your tongue, keeping it at the same height, and making a sound the whole time; round the lips progressively if the back vowel requires it. You should hear the front vowel change gradually into the back vowel. Then do the same in reverse.

## 4. Knowing the system

Given that you can use these nine vowels to locate and produce any other vowel in any accent or language, it's worth making sure that you know the system that underlies them and links them together. There are four things you need to know about each of these nine vowels:

- its three-word description;
- its sound;
- its position on the chart;
- the symbol that represents it.

### 4.1. Three-word description

The first word in the three-word description denotes the tongue height, the second word denotes the frontness or backness of the tongue-hump, and the third word indicates whether the lips are rounded or unrounded:

- the first word must normally be *close*, *close-mid*, *open-mid* or *open*.
- the second word must be *front*, *central* or *back*.
- the third word must be *rounded* or *unrounded*.

The ninth vowel, whose height is between close-mid and open-mid, is (exceptionally) described as *mid*: a *mid central unrounded* vowel. Lip rounding is shown on the chart by whether the symbol is to the left or the right of its vowel.

### 4.2. Sound

Contrary to what one might think, listening to the recordings is not by itself a good way to learn the sounds of these vowels. The secure way of learning them is to place the tongue and lips in the required position, making sure that the appropriate part of the tongue is tense, then keep them firmly in place and see what vowel comes out. Check this sound against the recording, and adjust the tongue configuration and lip rounding until the two sounds match.

### 4.3. Position

The position of a vowel on the chart is shown by the first two words of its three-word description. If you know one, you know the other.

### 4.4. Symbol

The chart shows the phonetic symbols normally used for these vowels. Some of these symbols are the same as ordinary letters, but the sounds they represent are not the sounds they normally have in English; they are the sounds that they historically had in Latin, and still have in many European languages. In French, for example, the letter *i* normally represents the sound of the first reference vowel ('ville', 'fils'). Some letters still represent these sounds in some English words: the letter *i* has the sound of the first reference vowel in the English word

'machine', for example, and the letter **u** has the sound of the eighth reference vowel in English 'brute' (in a south-of-England accent). The nine symbols are usually called 'letter I', 'letter E', 'Greek E', 'curly-topped A', 'round-bellied A', 'broken O' or 'reversed C', 'letter O', 'letter U' and 'turned (meaning upside-down) E'.