

Phonetics The general study of the characteristics of speech sounds is called phonetics. The velum can be lowered to allow air to flow through the nasal cavity and thereby produce another voiced velar, represented by the symbol [ŋ], typically referred to as "angma." The term "interdentals" is sometimes used for these consonants when they are pronounced with the tongue tip between (inter) the upper and lower teeth. Alveolars These are sounds formed with the front part of the tongue on the alveolar ridge, which is the rough, bony ridge immediately behind and above the upper teeth. The initial sounds in top, dip, sit, zoo and nut are all alveolars. The symbols for these sounds are easy to remember [t], [d], [s], [z], [n]. Of these, [t] and [s] are voiceless whereas [d], [z] and [n] are voiced. It may be clear that the final sounds of the words bus and buzz have to be [s] and [z] respectively, but what about the final sound of the word raise? The spelling is misleading because the final sound in this word is voiced and so must be represented. Palatals If you feel back behind the alveolar ridge, you should find a hard part in the roof of your mouth. This is called the hard palate or just the palate. Sounds produced with the tongue and the palate are called palatals (or alveo-palatals). Examples of palatals are the initial sounds in the words shout and child, which are both voiceless. The "sh" sound is represented as [ʃ] and the "ch" sound is represented as [tʃ]. Other areas of study are acoustic phonetics, which deals with the physical properties of speech as sound waves in the air, and auditory phonetics (or perceptual phonetics) which deals with the perception, via the ear, of speech.

Voiced and voiceless sounds In articulatory phonetics, we investigate how speech sounds are produced using the fairly complex oral equipment we have. The symbol used for this sound is (θ), usually referred to as "theta." It is the symbol you would use for the first and last sounds in the phrase three teeth. The voiced dental is represented by the symbol [ð], usually called "eth." The terms used to describe many sounds are those which denote the place of articulation of the sound: that is, the location inside the mouth at which the constriction takes place.

Bilabials These are sounds formed using both (the) upper and lower lips (labia). Inside the larynx are your vocal folds (or vocal cords), which take two basic positions. One of the voiced palatals, represented by the symbol [ʒ], is not very common in English, but can be found as the middle consonant sound in words like treasure and pleasure, or the final sound in rouge. The other voiced palatal is (dʒ), which is the initial sound in words like joke and gem. There is a voiceless velar sound, represented by the symbol (k), which occurs not only in kid and kill, but is also the initial sound in car and cold. They are represented by the symbols [p], which is voiceless, and [b] and [m], which are voiced. They are represented by the symbols [f], which is voiceless, and [v], which is voiced. Notice that the final sound in the word cough, and the initial sound in photo, despite the spelling differences, are both pronounced as [f]. Our main interest will be in articulatory phonetics, which is the study of how speech sounds are made, or articulated. We start with the air pushed out by the lungs up through the trachea (or windpipe) to the larynx. parts of the mouth to constrict, in some way, the shape of the oral cavity through which the air is passing. The initial sounds in the words pat, bat and mat are all bilabials. The initial sounds of the words far and vat and the final sounds in the words safe and save are labiodentals. The initial sound of thin and the final sound of bath are both voiceless dentals. This sound is found in the pronunciation of the initial sound of common words like the, there, then and thus. The word judge and the name George both begin and end with the sound [dʒ] despite the obvious differences in spelling. One other voiced palatal is the [j] sound used at the

beginning of words like you and yer. Velars Even further back in the roof of the mouth, beyond the hard palate, you will find a soft area, which is called the soft palate, or the velum. Sounds produced with the back of the tongue against the velum are called velars. Despite the variety in spelling, this [k] sound is both the initial and final sound in the words cook, kick and coke. The voiced velar sound heard at the beginning of words like go, gun and give is represented by (g). This is also the final sound in words like bag, mug and, despite the spelling, plague. Place of articulation Once the air has passed through the larynx, it comes up and out through the mouth and/or the nose. Most consonant sounds are produced by using the tongue and other. Labiodentals These are sounds formed with the upper teeth and the lower lip.