

*** CONSONANT CHARTS**

VOICING groups consonants in one of two categories. Voiced consonants engage the vocal cords. Voiceless consonants employ air flow without vocalized tone.

	Bilabial	Labiodental	Dental and Alveolar	Prepalatal and Palatal	Velar	Glottal
Voiceless	[p], [ʍ] <i>when</i>	[f]	[θ] <i>thin</i> , [t], [s]	[ʃ] <i>sheep</i> , [tʃ] <i>chair</i> , [ç] <i>hue</i>	[k], [χ] GR <i>ach</i>	[h], [ʔ] <i>each</i>
Voiced	[b], [w], [m]	[v]	[ð] <i>them</i> , [d], [z] [n], [l], rolled [r], flipped [r], retroflex [ɹ]	[ʒ] <i>vision</i> , [dʒ] <i>judge</i> , [j] <i>yes</i> [ɲ] IT <i>signore</i> , [ʎ] IT <i>gli</i>	[g] [ŋ] <i>sing</i>	

POINT OF ARTICULATION identifies the formation of each consonant by indicating the point of contact or near point of contact made by the articulators.

Points of Articulation	English	Italian	German	French
Bilabial [bɑɪ'leɪbiəl] Refers to the lips	[p] [b] [m] [ʍ][w]	[p] [b] [m] [w]	[p] [b] [m]	[p] [b] [m] [w]
Labiodental [leɪbiə'dentəl] Involves the lower lip and the upper row of teeth	[f] [v]	[f] [v]	[f] [v] [pf]	[f] [v]
Dental ['dentəl] Involves the tongue tip and the back of the upper row of teeth	[θ] [ð]	[t] [d] [s] [z] [l] [n] [r] [r] [ts] [dz]	[s] [z] [l]	[t] [d] [s] [z] [l] [n] [r]
Alveolar [ʔæl'viələɹ] Involves the tongue tip and the ridge behind the upper teeth	[t] [d] [s] [z] [l] [n] [r] [ɹ]		[t] [d] [n] [r] [ts]	
Prepalatal [pi'i'pælətəl] Involves the tongue and area between the alveolar ridge and hard palate	[ʃ] [ʒ] [tʃ] [dʒ]	[ʃ] [tʃ] [dʒ] [j] [ɲ] [ʎ]	[ʃ] [tʃ]	[ʃ] [ʒ] [j] [ɲ] [ɥ]
Palatal ['pælətəl] Involves a middle arch of the tongue and the hard palate	[j]		[j] [ç]	
Velar ['viləɹ] Involves a back arch of the tongue and the soft palate	[k] [g] [ŋ]	[k] [g] [ŋ]	[k] [g] [ŋ] [χ]	[k] [g]
Glottal ['glətəl] Involves the air flow and the opening between the vocal cords	[ʔ] [h]		[ʔ] [h]	

MANNER OF ARTICULATION describes how air moves past the articulators during the enunciation of a consonant.

Manner of Articulation	English	Italian	German	French
Stop [stɒp] A momentary closure of the air flow passage	[p] [b] [t] [d]	[p] [b] [t] [d]	[p] [b] [t] [d]	[p] [b] [t] [d]
Plosive ['plɒʊsiv] A stop released without aspiration (for Italian & French)	[k] [g] [ʔ]	[k] [g]	[k] [g] [ʔ]	[k] [g]
Fricative ['frɪkətɪv] Produced by directing the air flow past a set of articulators	[f] [v] [s] [z] [ʍ] [ʃ] [ʒ] [h] [θ] [ð]	[f] [v] [s] [z] [ʃ]	[f] [v] [s] [z] [ʃ] [h] [ç] [χ]	[f] [v] [s] [z] [ʃ] [ʒ]
Affricate ['ʔæfrɪkət] A stop or plosive that is followed by a fricative	[tʃ] [dʒ]	[ts] [dz] [tʃ] [dʒ]	[tʃ] [pf] [ts]	
Nasal ['neɪzəl] Produced by directing vocalized tone through the nasal passages	[m] [n] [ŋ]	[m] [n] [ŋ] [ɲ]	[m] [n] [ŋ]	[m] [n] [ɲ]
Lateral ['lætərəl] Produced by directing vocalized tone over the sides of the tongue	[l]	[l] [ʎ]	[l]	[l]
Glide [glɑɪd] Produced by directing vocalized tone past the articulators without friction	[j] [w]	[j] [w]	[j]	[j] [w] [ɥ]
Trill [tɹɪl] Formed by taps of the tongue tip against the alveolar ridge and/or teeth	[r]	[r] [r]	[r]	[r]
Retroflex ['ɹetɹɔʊflɛks] Produced with rounded lips and the tongue tip curled up	[ɹ]			

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