

Consonants and Vowels in English

Speech is made when we use our lips, tongue, teeth, palate, and vocal cords to modify the air stream as we breathe out. Articulation refers to the formation of the distinct sounds of speech in the mouth.

Phonemes

A **phoneme** is the smallest unit of speech sound. It can be a **consonant** or a **vowel**.

Consonant Phonemes

Classification based on the **place** of articulation

<p><u>Front of the mouth</u></p> <ul style="list-style-type: none"> • Bilabial – Lips together: <i>/p/ /b/ /m/</i> • Labiodental – Upper teeth on lower lip: <i>/f/ /v/</i> • Dental – Tongue between teeth: <i>/θ/ /ð/</i> (<i>/θ/</i> as in “there”) • Alveolar/Lingua-dental – Tongue on ridge behind upper front teeth: <i>/t/ /d/ /n/ /s/ /z/</i> 	<p><u>Middle of the mouth</u></p> <ul style="list-style-type: none"> • Palatal – Tongue pulled back, touching upper palate: <i>/sh/ /zh/ /ch/ /j/ /y/ /r/</i> (<i>/zh/</i> as in “measure”)
	<p><u>Back of the mouth</u></p> <ul style="list-style-type: none"> • Velar – Tongue / back of throat: <i>/k/ /g/ /ng/</i> • Glottal – Glottis (opening between the two vocal cords): <i>/h/</i>

Classification based on the **manner** of articulation

Manner refers to how the air stream is managed.

Another description of sounds is **voicing**, that is whether the vocal cords vibrate or not. Sounds come in pairs. For example, /p/ and /b/ are a pair. The sound /p/ is voiceless (no sound from the vocal cords), while the /b/ is voiced, that is, vibrated by the vocal cords. Other pairs include: /s/ and /z/, /k/ and /g/, /t/ and /d/, /f/ and /v/, /ch/ and /dg/ - with one of each pair with the voice on and the other with the voice off.

Consonant sounds by manner of production:	Voiced	Unvoiced
Stops – Stops the airflow and then releases it in a quick burst. Also called plosives .	<i>/b/ /d/ /g/</i>	<i>/p/ /t/ /k/</i>
Fricatives – Partially blocks the flow of air out of the mouth through an obstruction. The sound is continuous and produces friction. The /s/ family of sounds (s, z, sh, ch, dg) are also known as sibilant sounds.	<i>/v/ /ð/ /z/ /zh/</i>	<i>/f/ /θ/ /s/ /sh/</i>
Affricates – Stops the air before the sound is released. Friction is produced.	<i>/j/</i>	<i>/ch/</i>
Nasals – Directs the air through the nose instead of the mouth. The sound is voiced and continuous.	<i>/m/ /n/ /ng/</i>	(none)
Liquids – Rolls in the mouth and can alter the vowel sounds before them. The sound is voiced and continuous.	<i>/l/ /r/</i>	(none)
Glides – The tongue shapes the mouth cavity	<i>/y/ /w/</i>	<i>/hw/</i>

Consonants and Vowels in English (continued)

Vowel Phonemes

All vowel phonemes are **open**, **continuous**, and **voiced**.

/ē/	/ī/	/ā/	/ĕ/	/ă/	/ī/	/ō/
beet	bit	bait	bet	bat	bite	bot

Lip shape helps form vowels
The tongue is high or low, and in front or in back of the mouth



Gradually open the mouth, drop the tongue, and lower the chin.



Open mouth

/ō/	/ū/	/aw/	/ō/	/oŏ/	/ü/	/ū/
bot	but	paw	boat	book	boot	cute

Open mouth



Gradually round the lips and pull back the tongue



Rounded mouth

Diphthongs

A vowel sound that is made using two vowels/mouth shapes

/ow/	/oy/
plow	coin

R-Controlled Vowels

A vowel sound that is changed by the "r" that follows it.

/ar/	/er/	/or/
car	bird	fork

Schwa

An unstressed vowel sound that sounds like a short u or a short i.

/ə/
the

Speech Development

Children with 22q deletion/duplication often have speech sound disorders and may be delayed in reaching their [Speech and Developmental Milestones](#). Speech-language evaluation is a critical component in determining presence and type of speech disorders, and guiding speech therapy.

References / Resources

- [Understanding Consonants and Vowel Phonemes in English](#) – Colorado Department of Education
- [Speech and Developmental Milestones](#) – National Institute on Deafness and Other Communication Disorders
- Graphics: [Free Mouth Shapes Sets for Adobe Character Animator](#)