

1. Pronunciation

Pronunciation means how we say words. This may refer to generally agreed-upon sequences of sounds used in speaking a given word or language in a specific dialect ("correct pronunciation"). The pronunciations given are those in use among educated urban speakers of standard English in Britain, and the keywords given here are to be understood as pronounced in such speech.

1.1. Phonetic Alphabet

The phonetic alphabet is the letters represent sounds. The **International Phonetic Alphabet (IPA)** is a system where each symbol is associated with a particular English sound. By using IPA you can know exactly how to pronounce a certain word in English. This helps in improving English pronunciation and feeling more confident speaking in English.

English language has:

26 letters (A-Z)

★ 5 vowels

★ 21 consonants

44 pronunciation sounds

★ 20 vowels sounds

★ 24 consonant sounds

The 44 pronunciation sounds (or phonemes) can be written with phonetic symbols. Knowing and recognizing those sounds will help to give you good pronunciation.

This chart contains all the sounds (phonemes) used in the British English.

Phonemic Chart Click on a symbol to hear its pronunciation

	monophthongs				diphthongs			
VOWELS	i:	ɪ	ʊ	u:	ɪə	eɪ		
	sheep	ship	good	shoot	here	wait		
	e	ə	ɜ:	ɔ:	ʊə	ɔɪ	əʊ	
bed	teacher	bird	door	cure	boy	show		
æ	ʌ	ɑ:	ɒ	eə	aɪ	aʊ		
cat	up	far	on	hair	my	cow		
CONSONANTS	p	f	t	θ	tʃ	s	ʃ	k
	pea	fly	tea	think	cheese	see	shall	car
	b	v	d	ð	dʒ	z	ʒ	g
boat	video	dog	this	June	zoo	television	go	
h	m	n	ŋ	r	l	w	j	
hat	man	now	singer	red	love	wet	yes	

Figure: Phonemic chart

For Click on each symbol or sample word to hear, See

(<https://www.englishclub.com/pronunciation/phonemic-chart-ia.htm>):

✓ **Some online resource of English Dictionaries**

<https://dictionary.cambridge.org/dictionary/english/single>

<https://play.google.com/store/apps/details?id=com.bibooki.mobile.dictionary.pronunciation.google>



<https://play.google.com/store/apps/details?id=com.ocoder.english.pronunciation>

Here is an example IPA of what English Vowel Sounds IPA symbols look like in the dictionary.

Vowel Sounds In The IPA Example

From Cambridge Dictionary Online

formulate
verb [T]

UK  /'fɔː.mjə.leɪt/ US  /'fɔːr.mjə.leɪt/

dash is before the stressed syllable

Click to listen

/'fɔː.mjə.leɪt/

Two dots /:/ after a vowel symbol indicate a long single vowel.
Check you make a long vowel and not a short vowel.

One vowel symbol without the /:/ is a short single vowel.
This vowel /ə/ is the weak vowel 'schwa', this is the most common vowel in English.

Two vowel symbols together is a diphthong or double vowel.
Check you make two vowel sounds joined together and not a single vowel.

1.2. Examples of English Vowels in the IPA

✓ Short Vowels

Vowel Phonetic Symbol	IPA Examples in Words
/ɪ/	hit /hɪt/, pick /pɪk/, miss /mɪs/, tip /tɪp/, listen /'lɪs.ən/, big /bɪg/
/æ/	cat /kæt/, sat /sæt/, back /bæk/, hat /hæt/, cap /kæp/, pat /pæt/, flat /flæt/, family /'fæ.mə.li/, sad, map, man,
/ʌ/	cut /kʌt/ luck /lʌk/, bus /bʌs/ cup /kʌp, but /bʌt/ jump /dʒʌmp/, cover /'kʌ.vər/, money, one, London, come.
/ʊ/	put /pʊt/ look /lʊk/, cook /kʊk/ good /gʊd/, put /pʊt/, book /bʊk/, cushion /'kʊ.ʃən/

/ɒ/	hot /hɒt/ sock /sɒk/, box /bɒks/, top /tɒp/, pot /pɒt/, dog /dɒg/, hospital /'hɒs.pɪ.təl/, rob, top, watch
/e/	bed /bed/, sent /sent/, attention /ə'ten.ʃən/, head /hed/, meny /meni/, wet /wet/
/ə/ – schwa	apart/ə'pa:t/ pilot /'paɪ.lət/, carrot /'kæ.rət/ minute /'mɪ.nət/, about /ə'baʊt/, system /'sɪs.təm/, complete /kəm'pli:t/, standard /stæn.dəd/

✓ Long Vowels

Vowel Phonetic Symbol	IPA Examples in Words
/i:/	week /wi:k/, see /si:/, eat /'i:t/, heat /hi:t/ peak /pi:k/ piece /pi:s/ seek /si:k/
/ɑ:/	hard /hɑ:d/, park /pɑ:k/, article /ɑ:.tɪ.kəl/, start /sta:t/ dark /da:k/, glass /glɑ:s/ laugh /la:f/, after, fast, guard
/ɔ:/	four /fɔ:/, walk /wɔ:k/, August /ɔ:'gʌst/, water /wɔ:tər/ sport /pɔ:t/, horse /hɔ:s/ form /fɔ:m/
/ɜ:/	learn /lɜ:n/, word /wɜ:d/, surface /'sɜ:.fɪs/ earth /ɜ:θ / work /wɜ:k/ nurse /nɜ:s/ sir /sɜ:/, first, bird
/u:/	too /tu:/, group /gru:p/, beautiful /'bjʊ:.tɪ.fəl/, suit /su:t/ threw /θru:/, juice /dʒu:s/ room /ru:m/

✓ Diphthong (double) Vowels

Vowel Phonetic Symbol	IPA Examples in Words
/eɪ/	place /pleɪs/, late /leɪt/, dangerous /'deɪn.dʒərəs/, age /eɪdʒ/ lake /leɪk/, race /reɪs/ table /teɪbl/
/əʊ/	home /həʊm/, phone /fəʊn/, global /'gləʊ.bəl/, note /nəʊt/ know /nəʊ/ low /ləʊ/ phone /fəʊn/
/aʊ/	mouse /maʊs/, brown /braʊn/, now /naʊ/, about /ə'baʊt/, found /faʊnd/ house /haʊs/ down /daʊn/
/ɪə/	clear /kɪə/, fear /fɪə/, career /kə'ɪə/, hear /hɪə/ near /nɪə/ fear /fɪə/ beer /bɪə/

/eə/	care /keə/, wear /weə/, declare /di'kleə/, hair /heə/ share /ʃeə/ air /eə/ chair /tʃeə/
/ɔɪ/	boy /bɔɪ/, toy /tɔɪ/, enjoyable /ɪn'dʒɔɪ.jə.bəl/, join /dʒɔɪn/ choice /tʃɔɪs/ , point /pɔɪnt/
/aɪ/	find /faɪnd/, bite /baɪt/, tiger /'taɪ.gə/, light /laɪt/ like /laɪk/ rice /raɪs/ time /taɪm/
/ʊə/	tour /tʊə/, pure /pʊə/, mature /mə'tʃʊə/; tour /tʊə/ lure /lʊə/ cure /kʊə/

2. English vocabulary

Note: Translate the terms from English to Arabic (see le lesson at the class)

2.1. Terms in Basic Chemistry

English	Arabic
Atoms	
Elements	
Compounds	
Molecules	
Particles	
Pure substance	
Bonds	
Chemical bonding	
Covalent bonds	
Nucleus (the centre of the atom)	
Protons	
Neutrons	
Electrons	
Metals	
Positive charges	
Chemical equation	
Measurements	

2.2. ORGANIC CHEMISTRY

English	Arabic
Periodic Table	
atomic number	
electron configuration	
atomic orbital	
Absolute Configuration	
Valence electrons	
Lone Pair electrons	
Formal charges	
buffer solution	
pH scale	
Aromatic Compound	
Alcohol	
Acid	
Base	
Essential Oil	
Saturated hydrocarbons	
Unsaturated Fatty Acid	
Fatty Acid	
Salt	
sugar	
Functional groups	
Molecular Formula	
Symmetrical Double Bond	
polar molecule	
Free Radical	
Benzene Ring	
solvent	
Gases	
Liquids	
Solids	
Mixtures	

2.3. Chemical Processes and Reactions

English	Arabic
Reagent	
Reactant	
Product	
Catalyst	
Lost	
Gain	
Enzyme	
Free energy	
chain reaction	
Substrate	
Reducing Agent	
Relative Yield	
Evaporation	
Condensation	
Distillation	
Thermal Decomposition	
Titration	
Breaking	
Heating	
Catalytic reforming	
Configuration	
Conformation	
hydrolysis	
Substituents	
Kinetic Conditions	
Conjugate Addition	
Oxidation-Reduction	
Saponification	
Fragmentation	
Esterification	
Insertion	

2.4. Chemistry Equipment

English	Arabic
Chromatography	
Infrared spectroscopy	
Mass spectrometry	
Nuclear magnetic resonance (nmr) spectroscopy	
Ultraviolet light	
Balance	
Beaker	
Buret	
Erlenmeyer Flask	
Graduated Cylinder	
Funnel	
Evaporating Dish	
Volumetric Flask	
Volumetric Pipet	
Wash Bottle	
Mortar and Pestle	
Pipet Bulb	
Volumetric Pipet	
Test Tube Rack	
Bunsen burner	
Tripod and gauze	
Burettes	
Test tube	
basic chemistry kit	
Vibrations	
waves and optics	
Beer-Lambert Law	
Long-Range Coupling	
Molar Absorption Coefficient	
Resolution	