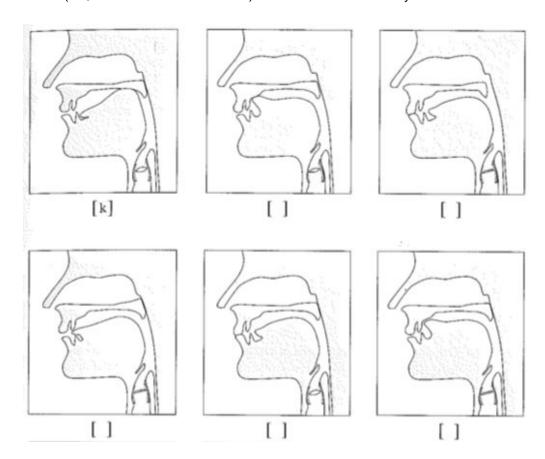
Week 5: Consonants

Practice Problems

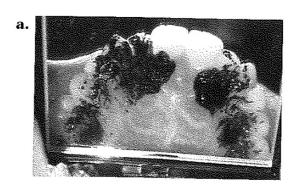
- (1) For each of the following words, determine whether the first and last sounds are voiced.
 - (a) thought
 - (b) view
 - (c) silk
 - (d) judge
 - (e) buns
- (2) For each drawing, write the only consonant sound of English that could be produced by the vocal tract positioned shown. Take into account voicing, mannar, and place of articulation. Note that voicing is shown by two wavy or bumpy lines (representing vocal fold vibration) where the larynx would be, whereas voiceless sounds are represented by two lines shaped like an ellipse at the larynx level, indicating an open glottis. Also note whether the air passage to the nasal cavity is open or closed (i.e., velum is lowered or raised). The first one is done for you.

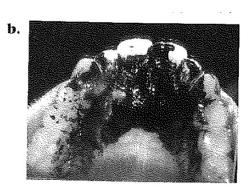


(3)	Explain why	vour vocal	l folds don'	t vibrate whei	n you whisper.
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- (4) Write the phonetic symbol representing each of the following sounds (don't forget to use square brackets). The last one is given as an example.
 - (a) voiceless post-alveolar affricate
 - (b) voiced velar nasal
 - (c) voiced glottal fricative
 - (d) voiced labiodental fricative
 - (e) voiced interdental fricative
 - (f) voiced post-alveolar fricative
 - (g) voiced alveolar lateral liquid
 - (h) voiced palatal glide [j]
- (5) Write the three-part articulatory descriptions for the consonant sounds represented by the following symbols. The last one is given as an example.
 - (a) [f]
 - (b) [z]
 - (c) [n]
 - (d) [n]
 - (e) [ʃ]
 - (f) [x]
 - (g) [3]
 - (h) [t[^]∫]
 - (i) [g]
 - (j) [?]
 - (k) [j] voiced palatal glide
- (6) For each group of sounds, identify the segment that differs in place of articulation from the other three.
 - (a) [s], [n], [x], [v]
 - (b) [k], [n], [ŋ], [g]
 - (c) [m], [p], [l], [w]
 - (d) $[], [d^3], [d], [t^5]$
 - (e) [t], [n], [d], [k]

(7) Based on the articulatory description of consonants, of the two pictures below, which do you think could be an instance of [t] and which an instance of [s]? How do you know? What other sounds could make the pattern seen in (a) and (b)?





You will be provided with the following charts on the exam.

THE INTERNATIONAL PHONETIC ALPHABET (revised to 2018)

CONSONANT	rs (P	ULM	ONIC)	5																C	2018	IPA
	Bila	abial	Labio	dental	De	ntal	Alveola	ır	Postalveolar		Retroflex		Palatal		Velar		Uvular		Pharyngeal		Glo	ottal
Plosive	p	b					t d				t	d	С	J	k	g	q	G			3	
Nasal		m		m			n	Ĺ				η		n		ŋ		N				
Trill		В					r	ì										\mathbf{R}				
Tap or Flap				\mathbf{V}			ſ					τ										
Fricative	ф	β	f	v	θ	ð	s z		ſ	3	ş	Z.	ç	j	x	γ	χ	\mathbf{R}	ħ	ſ	h	Я
Lateral fricative							4 3	;														
Approximant				υ			J					J		j		щ						
Lateral approximant							1					l		λ		L						

Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.

VOWELS

CONSONANTS (NON-PULMONIC)

Clicks	Voiced implosives	Ejectives
O Bilabial	6 Bilabial	Examples:
Dental	d Dental/alveolar	p' Bilabial
! (Post)alveolar	f Palatal	t' Dental/alveolar
‡ Palatoalveolar	g Velar	k' Velar
Alveolar lateral	G Uvular	S' Alveolar fricative

OTHER SYMBOLS

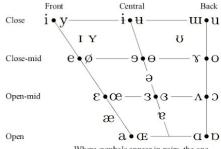
M Voiceless labial-velar fricative € Z Alveolo-palatal fricatives

W Voiced labial-velar approximant J Voiced alveolar lateral flap Simultaneous \int \text{ and } X U Voiced labial-palatal approximant j

H Voiceless epiglottal fricative

Affricates and double articulations Yoiced epiglottal fricative can be represented by two symbols joined by a tie bar if necessary.

P Epiglottal plosive



Where symbols appear in pairs, the one to the right represents a rounded vowel.

SUPRASEGMENTALS

Primary stress ,foʊnə tı∫ən Secondary stress

e' Half-long

Extra-short ĕ

Minor (foot) group

Major (intonation) group

. Syllable break __i.ækt

Linking (absence of a break)

TONES AND WORD ACCENTS LEVEL CONTOUR

e or	7 Extra	ě or	Rising
é	High	ê	V Falling
$\bar{\mathrm{e}}$	Mid	é	1 High rising
è	Low	ĕ	Low
ë	∫ Extra low	è ´	√ Rising- falling
↓ Do	wnstep	→ Glol	bal rise

DIACRITICS Some diacritics may be placed above a symbol with a descender, e.g. $\ddot{\eta}$

			, ,	
0	Voiceless	ņ ḍ	la a 4	ď
Ų	Voiced	şţ	Creaky voiced b a Apical t	d
h	Aspirated	$t^{ m h}d^{ m h}$. 1	d
,	More rounded	ş	$^{ m w}$ Labialized $t^{ m w}$ $d^{ m w}$ $^{\sim}$ Nasalized	$\tilde{\mathbf{e}}$
c	Less rounded	Ş	j Palatalized t ^j d ^j n Nasal release	d^{n}
+	Advanced	ų		d^{1}
_	Retracted	e	$^{\Gamma}$ Pharyngealized $\ t^{\Gamma}$ $\ d^{\Gamma}$ $\ \ ^{\Gamma}$ No audible release	d
	Centralized	ë	~ Velarized or pharyngealized 1	
×	Mid-centralized	ě	Raised $\underbrace{\mathbf{P}}_{\mathbf{I}}$ ($\underbrace{\mathbf{J}}_{\mathbf{I}}$ = voiced alveolar fricative)	
-	Syllabic	ņ	Lowered $e \in \Omega_{\tau}$ Lowered Lowered Lowered Lowered $e \in \Omega_{\tau}$	
^	Non-syllabic	ĕ	Advanced Tongue Root e	
r	Rhoticity	or ar	Retracted Tongue Root e	