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Phonetics Workbook for Students of Communication Sciences and Disorders

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Phonetics Workbook

/fəˈnɛtɪks wɜːkbʊk/

*for Students of
Communication Sciences and Disorders*

April M. Yorke with
Emily Sternad, Carley Shermak, Alyssa Mahler

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Also, to Avery Jester and Morgan Rittenberger who served as initial reviewers and editors of the content.

My incredible family— I love you so dearly!

Phonetics Workbook for Students of Communication Sciences and Disorders

This workbook is designed to give students in communication sciences and disorders foundational knowledge in Phonetics. Students will learn to listen and transcribe the speech of typically developing speakers of Standard American English in the International Phonetic Alphabet (IPA). Students will also learn how to listen and transcribe the speech of individuals with common speech sound disorders (i.e., residual articulation disorders and phonological disorders). Students will also be introduced to the fundamentals of speech science and spectrograms as they pertain to speech sound production.

Key words: Phonetics, transcribing, transcription, International Phonetic Alphabet (IPA), speech-language pathology, audiology, communication sciences and disorders

Chapter 1: Listening to Sounds

Assignment #	Page #'s	Topic
1	2-3	Counting Sounds
2	4	Distinguishing Consonant Clusters From Digraphs
3	5	Counting Syllables
4	6	Open vs Closed Syllables
5	7-8	Marking Syllable Shapes

Assignment 1: Separating the Sounds in Words

Count the number of sounds in each set of words.

Set 1

- | | | | |
|---------------|----------------|-----------------|-----------------|
| 1. cat _____ | 2. tip _____ | 3. mad _____ | 4. post _____ |
| 5. pen _____ | 6. fry _____ | 7. baby _____ | 8. calm _____ |
| 9. trap _____ | 10. grim _____ | 11. valid _____ | 12. busy _____ |
| 13. bag _____ | 14. kid _____ | 15. snag _____ | 16. giant _____ |

You may have noticed that all of the words above have only one sound per letter. However, many/most words in the English language do not have a direct 1-to-1 correspondence between the number of letters and sounds.

Set 2

- | | | | | |
|-----------------|------------------|-----------------|------------------|-----------------|
| 1. clue _____ | 2. friend _____ | 3. reap _____ | 4. about _____ | 5. handle _____ |
| 6. grass _____ | 7. tried _____ | 8. tenth _____ | 9. abode _____ | 10. cool _____ |
| 11. train _____ | 12. crow _____ | 13. two _____ | 14. vacate _____ | 15. cite _____ |
| 16. free _____ | 17. supply _____ | 18. smack _____ | 19. pose _____ | 20. bee _____ |

These words have a group of letters that make a single sound or have a silent letter.

Set 3

- | | | | |
|-----------------|-------------------|--------------------|--------------------|
| 1. shoe _____ | 2. chose _____ | 3. because _____ | 4. chair _____ |
| 5. wreck _____ | 6. chain _____ | 7. shine _____ | 8. dissolve _____ |
| 9. course _____ | 10. thistle _____ | 11. chew _____ | 12. precious _____ |
| 13. shock _____ | 14. thief _____ | 15. birthday _____ | 16. cheap _____ |

These words have multiple groups of letters that make a single sound and/or a silent letter.

Set 4

- | | | | |
|------------------|-----------------|------------------|-------------------|
| 1. shirt _____ | 2. north _____ | 3. arrow _____ | 4. airplane _____ |
| 5. poor _____ | 6. stir _____ | 7. tear _____ | 8. fearful _____ |
| 9. clear _____ | 10. earn _____ | 11. shore _____ | 12. charter _____ |
| 13. car _____ | 14. tore _____ | 15. burn _____ | 16. bored _____ |
| 17. shower _____ | 18. purse _____ | 19. church _____ | 20. barn _____ |

These words each have at least one r-colored vowel. R-colored vowels count as a single sound.

Assignment 2: Distinguishing Consonant Clusters from Consonant Digraphs & Vowel Digraphs

Each of the words below has at least one consonant cluster, consonant digraph, or vowel digraph.

A **consonant cluster** is when two or more *different consonant sounds* appear together.

A **consonant digraph** is when two or more letters represent a *single consonant sound*.

A **vowel digraph** is when two or more letters represent a *single vowel sound*.

In the words below, underline each consonant cluster, circle each digraph.

Write a V above each vowel digraph. Write a C above each consonant digraph.

Hint: It is possible to have a consonant digraph as part of a larger (usually 3-letter consonant cluster.)

blue

stripe

train

thick

cross

steal

chug

chilled

through

shatter

shrink

channel

Assignment 3: Counting Syllables

Each **syllable** is composed of a vowel (the nucleus or the loudest part of the syllable) and sometimes one or more consonant sounds.

A syllable can be:

- a vowel sound alone
 - a vowel sound with one or more consonants before the vowel sound
 - a vowel sound with one or more consonants after the vowel sound
 - a vowel sound with consonants both before and after the vowel sound
-

Read each word below. Count the number of syllables in each word.

- | | | | |
|------------------|----------------------|----------------------|-------------------|
| 1. crazy _____ | 2. northern _____ | 3. consider _____ | 4. arrow _____ |
| 5. friend _____ | 6. ornamental _____ | 7. terrible _____ | 8. finance _____ |
| 9. gem _____ | 10. absolutely _____ | 11. malaria _____ | 12. charter _____ |
| 13. school _____ | 14. university _____ | 15. nutritious _____ | 16. octagon _____ |
| 17. flower _____ | 18. pursue _____ | 19. amphibian _____ | 20. banana _____ |

Assignment 4: Open vs Closed Syllables

As mentioned previously, each **syllable** is composed of a vowel and sometimes one or more consonant sounds.

A syllable can be:

- a vowel sound alone
- a vowel sound with one or more consonants before the vowel sound
- a vowel sound with one or more consonants after the vowel sound
- a vowel sound with consonants both before and after the vowel sound

Syllables can be classified as open syllables or closed syllables.

Open syllables end in a vowel sound.

Closed syllables have a consonant sound or sounds which follow the vowel. This is called sometimes called a coda.

In the words below, circle the letters that represent the vowel sound. Underline any consonant sounds that follow the vowel. Circle open for open syllables and closed for closed syllables.

top	open/closed	bay	open/closed
off	open/closed	tea	open/closed
see	open/closed	bow	open/closed
shine	open/closed	climb	open/closed
clock	open/closed	rough	open/closed
pen	open/closed	eye	open/closed

Assignment 5: Marking Syllable Shapes

As mentioned previously, syllable can be:

- a vowel sound alone
- a vowel sound with one or more consonants before the vowel sound
- a vowel sound with one or more consonants after the vowel sound
- a vowel sound with consonants both before and after the vowel sound

These syllables can be marked by their vowel (V) and consonant (C) **sounds**. For example:

Syllable Shape	Description	Example words
V	Vowel A vowel (or vowel digraph, or diphthong) alone	l, a, oh
VC	Vowel-Consonant A vowel followed by a consonant (or consonant digraph that makes a single sound)	it, an, ouch, off, out, ice, oat,
VCC	Vowel- Consonant Cluster A vowel followed by a consonant cluster	and
CV	Consonant-Vowel A consonant sound followed by a vowel	see, high, pay, tie
CVC	Consonant-Vowel-Consonant	seem, hide, pain, time
CVCC	Consonant-Vowel-Consonant Cluster	pant
CCVC	Consonant Cluster-Vowel-Consonant	swim, slide, train
CCCVC	Consonant Cluster (with 3 consonants)-Vowel-Consonant	stride

In the words below, circle the letters that represent the vowel sound.

Underline consonants before or after the vowel sound.

Then write in the line provided the syllable shape (V, CV, CVC, CCVC, etc). Hint: Remember, you are marking each word according to its *sounds*, not its letters.

Also, remember, consonant or vowel digraphs get marked as a single (V) or (C) sound.

For example, cat CVC

1. top _____ 2. chug _____ 3. rough _____

4. off _____ 5. eye _____ 6. clock _____

7. see _____ 8. blue _____ 9. train _____

10. end _____ 11. stripe _____ 12. bay _____

13. chilled _____ 14. pen _____ 15. climb _____

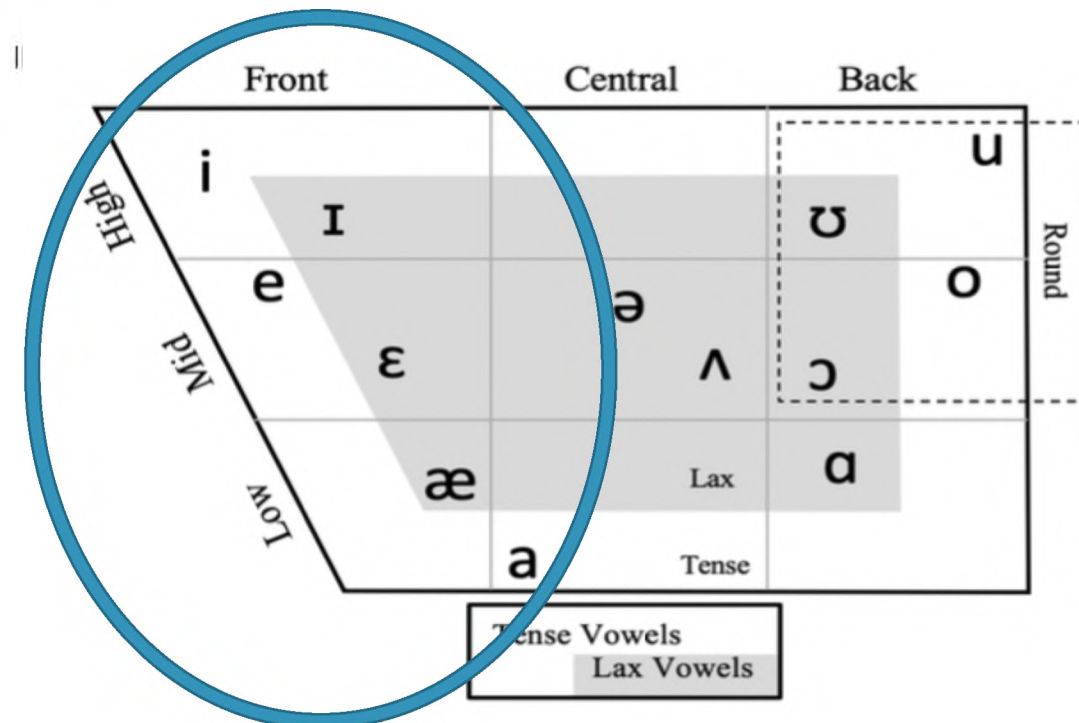
16. through _____ 17. ink _____ 18. cross _____

19. shrink _____ 20. tea _____ 21. steal _____

Chapter 2: Vowels

Front vowels

Assignment #	Page #s	Topic
6	10	/i/
7	11	/ɪ/
8	13	/i/ & /ɪ/
9	14	/e/
10	16	/e/ vs /i/ vs /ɪ/
11	17	/ɛ/
12	18	/ɛ/ vs /e/ vs /ɪ/ vs /i/
13	19	/æ/
14	21	Contrasting All Front Vowels
15	22	Identifying All Front Vowels



Modified from standard IPA English Vowel Chart (1999) and Bay, Bodily, and Ventura (2017).

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Assignment 6: Reading & Transcribing Words with the Vowel /i/

Read the transcription

- | | | |
|------------------|-----------------|-----------------|
| 1. /nid/ _____ | 2. /kip/ _____ | 3. /tim/ _____ |
| 4. /bip/ _____ | 5. /gis/ _____ | 6. /mit/ _____ |
| 7. /stim/ _____ | 8. /klin/ _____ | 9. /rid/ _____ |
| 10. /frik/ _____ | 11. /ist/ _____ | 12. /lis/ _____ |
| 13. /nis/ _____ | 14. /kɪm/ _____ | 15. /fit/ _____ |

Transcribe

- | | | |
|----------------|-----------------|----------------|
| 1. feel _____ | 2. deal _____ | 3. wheat _____ |
| 4. tea _____ | 5. beast _____ | 6. beet _____ |
| 7. deed _____ | 8. leak _____ | 9. weave _____ |
| 10. east _____ | 11. dream _____ | 12. deep _____ |
| 13. bead _____ | 14. beef _____ | 15. meet _____ |

Assignment 7: Reading & Transcribing Words with the Vowel /ɪ/

Read the transcription

1. /gɪft/ _____	2. /sɪk/ _____	3. /pɪk/ _____
4. /bɪl/ _____	5. /splɪt/ _____	6. /bɪt/ _____
7. /blɪs/ _____	8. /klɪf/ _____	9. /ɪl/ _____
10. /hɪk/ _____	11. /tɪl/ _____	12. /gɪv/ _____
13. /hɪnt/ _____	14. /dɪsk/ _____	15. /dɪft/ _____

Transcribe

1. grid _____	2. zip _____	3. lip _____
4. skit _____	5. big _____	6. pin _____
7. skim _____	8. crib _____	9. twin _____
10. milk _____	11. pill _____	12. it _____
13. flip _____	14. kit _____	15. slim _____

**American English Vowels, Diphthongs,
R-Colored Vowels and Diphthongs, and Consonants**

Front Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	i		
2			
3			When to use /eɪ/: 1) 2) 3)
4			
5			
6			British /ɑ/

Back Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	u		
2			
3			When to use /oʊ/: 1) 2) 3)
4			
5			

Central and R-colored Central Vowels: Complete this chart

	Symbol	When to use		Symbol	When to use
Stressed “uh”			Stressed R-Colored “er”		
Unstressed “uh”			Unstressed R-colored “er”		

Assignment 8: Contrasting the Vowels /i/ & /ɪ/

Circle the word with the phoneme /ɪ/ in each pair.

- | | | |
|------------------|----------------|-----------------|
| 1. list or least | 2. kid or kind | 3. ill or eel |
| 4. sheep or ship | 5. bite or bit | 6. lamp or limp |
| 7. bid or bead | 8. net or knit | 9. bind or bin |

Read the transcription

Beside the transcription that represents real English words, write the word.

Beside the transcription that does not represent a real English word, write an X.

- | | | |
|------------------|------------------|------------------|
| 1. /gis/ _____ | 2. /sɪks/ _____ | 3. /pik/ _____ |
| 4. /bil/ _____ | 5. /bɪg/ _____ | 6. /split/ _____ |
| 7. /sit/ _____ | 8. /klɪf/ _____ | 9. /il/ _____ |
| 10. /hɪnt/ _____ | 11. /tɪl/ _____ | 12. /gɪk/ _____ |
| 13. /fɪn/ _____ | 14. /disk/ _____ | 15. /nɪd/ _____ |

Transcribe

- | | | |
|-----------------|-----------------|-----------------|
| 1. queen _____ | 2. dip _____ | 3. leap _____ |
| 4. kick _____ | 5. bin _____ | 6. pig _____ |
| 7. scheme _____ | 8. crib _____ | 9. tween _____ |
| 10. sniff _____ | 11. dream _____ | 12. in _____ |
| 13. lean _____ | 14. knit _____ | 15. slick _____ |

Assignment 9: Reading & Transcribing Words with the Vowel /e/ or /eɪ/

Read the transcription

1. /beɪ/ _____	2. /kɪeɪp/ _____	3. /steɪn/ _____
4. /beɪl/ _____	5. /sleɪt/ _____	6. /leɪt/ _____
7. /bleɪd/ _____	8. /kleɪ/ _____	9. /beɪk/ _____
10. /heɪ/ _____	11. /peɪnt/ _____	12. /geɪv/ _____
13. /seɪl/ _____	14. /neɪm/ _____	15. /bɪeɪd/ _____

Transcribe

1. grade _____	2. fail _____	3. same _____
4. skate _____	5. wade _____	6. pane _____
7. drain _____	8. pray _____	9. eight _____
10. mane _____	11. pail _____	12. freight _____
13. flame _____	14. sleigh _____	15. race _____

**American English Vowels, Diphthongs,
R-Colored Vowels and Diphthongs, and Consonants**

Front Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	i		
2			
3			When to use /eɪ/: 1) 2) 3)
4			
5			
6			British /ɑ/

Back Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	u		
2			
3			When to use /oʊ/: 1) 2) 3)
4			
5			

Central and R-colored Central Vowels: Complete this chart

	Symbol	When to use		Symbol	When to use
Stressed “uh”			Stressed R-Colored “er”		
Unstressed “uh”			Unstressed R-colored “er”		

Assignment 10: Contrasting the Vowels /i/, /ɪ/, & /e/

Circle the word with the phoneme /e/ or /eɪ/ in each pair.

- | | | |
|-------------------|-------------------|-------------------|
| 1. dizzy or daisy | 2. pail or peel | 3. they or then |
| 4. grey or grid | 5. eight or at | 6. van or vane |
| 7. breed or braid | 8. stick or steak | 9. prey or prance |

Read the transcription

Beside the transcription that represents real English words, write the word.

Beside the transcription that does not represent a real English word, write an X.

- | | | |
|------------------|------------------|------------------|
| 1. /geɪt/ _____ | 2. /snɪk/ _____ | 3. /peɪv/ _____ |
| 4. /beɪl/ _____ | 5. /bɪg/ _____ | 6. /splɪt/ _____ |
| 7. /sɪt/ _____ | 8. /klɪf/ _____ | 9. /eɪl/ _____ |
| 10. /hɪnt/ _____ | 11. /teɪl/ _____ | 12. /gɪn/ _____ |
| 13. /fɪn/ _____ | 14. /deɪs/ _____ | 15. /nɪd/ _____ |

Transcribe

- | | | |
|-----------------|----------------|-----------------|
| 1. train _____ | 2. deep _____ | 3. lip _____ |
| 4. kick _____ | 5. bean _____ | 6. spray _____ |
| 7. scheme _____ | 8. treat _____ | 9. trim _____ |
| 10. seep _____ | 11. drip _____ | 12. stale _____ |
| 13. mane _____ | 14. keep _____ | 15. sick _____ |

Assignment 11: Reading & Transcribing Words with the Vowel /ɛ/

Read the transcription

- | | | |
|---------------------|----------------------|---------------------|
| 1. /pɛst/ _____ | 2. /mɛnd/ _____ | 3. /smɛl/ _____ |
| 4. /bɛd/ _____ | 5. /vɛnt/ _____ | 6. /bɛst/ _____ |
| 7. /nɛt/ _____ | 8. /lɛnd/ _____ | 9. /fɪɛnd/ _____ |
| 10. /ɪn'stɛd/ _____ | 11. /sɛt/ _____ | 12. /tɪɛnd/ _____ |
| 13. /'mɛdɪk/ _____ | 14. /pɪi'tɛnd/ _____ | 15. /'jɛsɪpi/ _____ |

Transcribe

- | | | |
|----------------|----------------|-----------------|
| 1. get _____ | 2. fret _____ | 3. dense _____ |
| 4. step _____ | 5. went _____ | 6. pen _____ |
| 7. dread _____ | 8. press _____ | 9. deck _____ |
| 10. mess _____ | 11. pet _____ | 12. tread _____ |
| 13. vest _____ | 14. sled _____ | 15. meant _____ |

Assignment 12: Contrasting the Vowels /i/, /ɪ/, /e/, & /ɛ/

Circle the word pair of words with the same vowel sound.

- | | | |
|-------------------|-------------------|--------------------|
| 1. bread and bed | 2. eat and egg | 3. step and vet |
| 4. mean and meant | 5. vain and eight | 6. key and kept |
| 7. steal and sell | 8. edge and send | 9. prey and prance |

Read the transcription

Beside the transcription that represents real English words, write the word.

Beside the transcription that does not represent a real English word, write an X.

- | | | |
|--------------------|-------------------|--------------------|
| 1. /gɛst/ _____ | 2. /plɪz/ _____ | 3. /peɪv/ _____ |
| 4. /beɪl/ _____ | 5. /bɪk/ _____ | 6. /'lɛmɪn/ _____ |
| 7. /sɪt/ _____ | 8. /lɪf/ _____ | 9. /ɛn/ _____ |
| 10. /hɪnd/ _____ | 11. /ɪ'tɛl/ _____ | 12. /'ɛdɪt/ _____ |
| 13. /'sɛvɪn/ _____ | 14. /deɪz/ _____ | 15. /ɪ'vent/ _____ |

Transcribe

- | | | |
|-----------------|----------------|-----------------|
| 1. tent _____ | 2. deep _____ | 3. clip _____ |
| 4. brake _____ | 5. mend _____ | 6. fake _____ |
| 7. listen _____ | 8. knead _____ | 9. blend _____ |
| 10. step _____ | 11. peel _____ | 12. trick _____ |
| 13. sweet _____ | 14. stem _____ | 15. bin _____ |

Assignment 13: Reading & Transcribing Words with the Vowel /æ/

Read the transcription

1. /pæst/ _____	2. /mæs/ _____	3. /bɪæs/ _____
4. /bæd/ _____	5. /væn/ _____	6. /kæf/ _____
7. /pænts/ _____	8. /lænd/ _____	9. /ɹæn/ _____
10. /flæg/ _____	11. /'jæbɪt/ _____	12. /tjæp/ _____
13. /'næpkɪn/ _____	14. /'pænɪk/ _____	15. /'kæptɪn/ _____

Transcribe

1. bat _____	2. grass _____	3. hand _____
4. strap _____	5. land _____	6. clam _____
7. mast _____	8. ramp _____	9. lad _____
10. stamp _____	11. react _____	12. mask _____
13. vast _____	14. clamp _____	15. lamp _____

**American English Vowels, Diphthongs,
R-Colored Vowels and Diphthongs, and Consonants**

Front Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	i		
2			
3			When to use /eɪ/: 1) 2) 3)
4			
5			
6			British /a/

Back Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	u		
2			
3			When to use /oʊ/: 1) 2) 3)
4			
5			

Central and R-colored Central Vowels: Complete this chart

	Symbol	When to use		Symbol	When to use
Stressed “uh”			Stressed R-Colored “er”		
Unstressed “uh”			Unstressed R-colored “er”		

Assignment 14: Contrasting All Front Vowels

Read the transcription

Beside the transcription that represents real English words, write the word.

Beside the transcription that does not represent a real English word, write an X.

- | | | |
|----------------------|----------------------|---------------------|
| 1. /'dimænd/ _____ | 2. /'fimel/ _____ | 3. /'plæsid/ _____ |
| 4. /'hændbæg/ _____ | 5. /'kipsek/ _____ | 6. /'fɛstɪv/ _____ |
| 7. /'sitɪd/ _____ | 8. /di'gʌɪd/ _____ | 9. /'mægnɪt/ _____ |
| 10. /leɪd'bæk/ _____ | 11. /ɪ'tɛl/ _____ | 12. /'lɪkwɪd/ _____ |
| 13. /'sævɪn/ _____ | 14. /'mɛdɪket/ _____ | 15. /'mɪtɛn/ _____ |

Transcribe

- | | |
|--------------------|------------------|
| 1. backpack _____ | 2. racket _____ |
| 3. inflate _____ | 4. rabbit _____ |
| 5. listen _____ | 6. please _____ |
| 7. step _____ | 8. peel _____ |
| 9. sweet _____ | 10. stem _____ |
| 11. fabric _____ | 12. demean _____ |
| 13. inept _____ | 14. exist _____ |
| 15. eighteen _____ | 16. salad _____ |
| 17. effect _____ | 18. mimic _____ |

Assignment 15: Identifying All Front Vowels

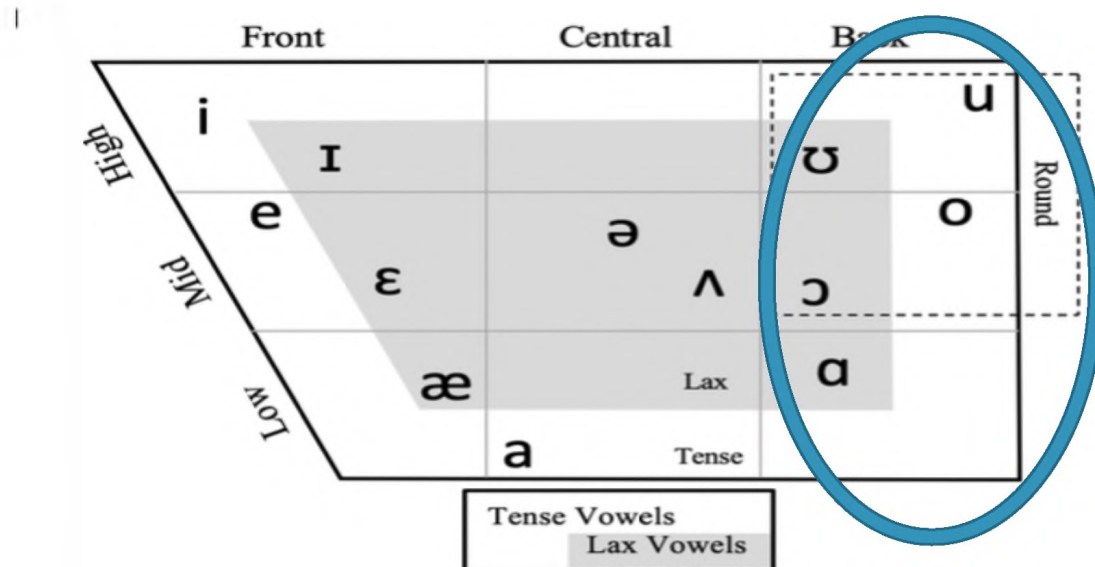
Transcribe the front vowel(s) in each word in the spaces provided.

1. place	_____	_____	2. gaze	_____	_____
3. driven	_____	_____	4. peach	_____	_____
5. belly	_____	_____	6. ballet	_____	_____
7. feedback	_____	_____	8. challenge	_____	_____
9. female	_____	_____	10. athlete	_____	_____
11. captive	_____	_____	12. mistake	_____	_____
13. kneecap	_____	_____	14. behave	_____	_____
15. nickname	_____	_____	16. relax	_____	_____
17. tennis	_____	_____	18. spinach	_____	_____
19. impact	_____	_____	20. children	_____	_____
21. classic	_____	_____	22. basic	_____	_____
23. infect	_____	_____	24. linkage	_____	_____
25. insane	_____	_____	26. refrain	_____	_____
27. index	_____	_____	28. inept	_____	_____
29. catnip	_____	_____	30. t-rex	_____	_____
31. captain	_____	_____	32. seven	_____	_____
33. pancake	_____	_____	34. panic	_____	_____

Vowels

Back vowels

Assignment #	Page #'s	Topic
16	24	/u/
17	25	Front Vowels + /u/
18	26	/ʊ/
19	28	Front Vowels + /u/ & /ʊ/
20	29	/o/ or /ou/
21	31	Front Vowels + /u/, /ʊ/ and /o/ or /ou/
22	32	/ɔ/
23	33	Front Vowels + /u/, /ʊ/, /o/ or /ou/, and /ɔ/
24	34	/ɑ/
25	36	All Front and Back Vowels
26	37	Identifying All Front and Back Vowels



Modified from standard IPA English Vowel Chart (1999) and Bay, Bodily, and Ventura (2017).

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Assignment 16: Reading & Transcribing Words with the Vowel /u/

Read the transcription

1. /blu/ _____	2. /kɪu/ _____	3. /mun/ _____
4. /fɪut/ _____	5. /luz/ _____	6. /ɪum/ _____
7. /gɪup/ _____	8. /skul/ _____	9. /gɪu/ _____
10. /fɪuz/ _____	11. /tɪu/ _____	12. /spun/ _____
13. /gɪuv/ _____	14. /lut/ _____	15. /mu/ _____

Transcribe

1. tube _____	2. boost _____	3. cruise _____
4. suit _____	5. scoop _____	6. goose _____
7. boot _____	8. loose _____	9. tool _____
10. stew _____	11. brew _____	12. food _____
13. ruby _____	14. movie _____	15. bruise _____

Assignment 17: Contrasting Front Vowels & /u/

Circle the words with /u/. Note some of these vowels have a /j/ before the /u/.

- | | | |
|--------------------|-----------------|-------------------|
| 1. zoo or book | 2. suit or soot | 3. just or juice |
| 4. fool or full | 5. but or boot | 6. truth or truck |
| 7. brought or brew | 8. fun or fuel | 9. pool or put |

Read the transcription

Beside the transcription that represents real English words, write the word.

Beside the transcription that does not represent a real English word, write an X.

- | | | |
|--------------------|---------------------|---------------------|
| 1. /sup/ _____ | 2. /pluz/ _____ | 3. /dɪu/ _____ |
| 4. /nuz/ _____ | 5. /hup/ _____ | 6. /'kjupɪd/ _____ |
| 7. /'kjutɪp/ _____ | 8. /'kjuti/ _____ | 9. /buk/ _____ |
| 10. /'dudæ/ _____ | 11. /'hjumɪn/ _____ | 12. /'bæskɪt/ _____ |
| 13. /bun/ _____ | 14. /'mjuzɪk/ _____ | 15. /spuk/ _____ |

Transcribe

- | | | |
|------------------|------------------|------------------|
| 1. flute _____ | 2. Ukraine _____ | 3. troop _____ |
| 4. useless _____ | 5. Tuesday _____ | 6. baboon _____ |
| 7. loosen _____ | 8. unique _____ | 9. zoom _____ |
| 10. tomb _____ | 11. clues _____ | 12. spoon _____ |
| 13. today _____ | 14. racoon _____ | 15. snooze _____ |

Assignment 18: Reading & Transcribing Words with the Vowel /ʊ/

Read the transcription

1. /wʊd/ _____	2. /stʊd/ _____	3. /bʊk/ _____
4. /hʊd/ _____	5. /tʊk/ _____	6. /'wʊdɛn/ _____
7. /stʊd/ _____	8. /lʊk/ _____	9. /kʊki/ _____
10. /rʊm/ _____	11. /kʊk/ _____	12. /wʊlf/ _____
13. /kʊd/ _____	14. /wʊd/ _____	15. /nʊk/ _____

Transcribe

1. would _____	2. put _____	3. could _____
4. foot _____	5. woods _____	6. good _____
7. crook _____	8. nook _____	9. bullet _____
10. wool _____	11. full _____	12. bull _____
13. book _____	14. stood _____	15. took _____

**American English Vowels, Diphthongs,
R-Colored Vowels and Diphthongs, and Consonants**

Front Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	i		
2			
3			When to use /eɪ/: 1) 2) 3)
4			
5			
6			British /a/

Back Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	u		
2			
3			When to use /oʊ/: 1) 2) 3)
4			
5			

Central and R-colored Central Vowels: Complete this chart

	Symbol	When to use		Symbol	When to use
Stressed “uh”			Stressed R-Colored “er”		
Unstressed “uh”			Unstressed R-colored “er”		

Assignment 19: Contrasting Front Vowels + /u/ & /ʊ/

Circle the words with /ʊ/.

- | | | |
|-----------------------|------------------|-------------------|
| 1. stew or stood | 2. coop or crook | 3. nook or knock |
| 4. should or shoulder | 5. look or luck | 6. shook or shock |
| 7. bush or bus | 8. rook or rule | 9. fool or full |

Read the transcription

Beside the transcription that does not represent a real English word, write an X.

- | | | |
|---------------------|---------------------|---------------------|
| 1. /slʊg/ _____ | 2. /plʊz/ _____ | 3. /ʊlz/ _____ |
| 4. /mɪs'tʊk/ _____ | 5. /hʊp/ _____ | 6. /ʊtɪn/ _____ |
| 7. /'bʊlɪtɪn/ _____ | 8. /'pɪtʊl/ _____ | 9. /bʊk/ _____ |
| 10. /ʊkt/ _____ | 11. /glʊ/ _____ | 12. /'bʊklɪt/ _____ |
| 13. /feɪs/ _____ | 14. /'mjʊzɪk/ _____ | 15. /spʊk/ _____ |

Transcribe

- | | | |
|------------------|--------------------|-------------------|
| 1. woman _____ | 2. bookends _____ | 3. wooden _____ |
| 4. cookie _____ | 5. bookbag _____ | 6. crooked _____ |
| 7. hoodies _____ | 8. couldn't _____ | 9. rescue _____ |
| 10. loosen _____ | 11. cookbook _____ | 12. beauty _____ |
| 13. movie _____ | 14. would _____ | 15. mistook _____ |

Assignment 20: Reading & Transcribing Words with the Vowel /o/ or /ou/

Read the transcription

1. /blou/ _____	2. /krouk/ _____	3. /mou/ _____
4. /houp/ _____	5. /lou/ _____	6. /roum/ _____
7. /gou/ _____	8. /sou/ _____	9. /grou/ _____
10. /toust/ _____	11. /tou/ _____	12. /sou/ _____
13. /vout/ _____	14. /houm/ _____	15. /mout/ _____

Transcribe

1. foam _____	2. tone _____	3. stone _____
4. loan _____	5. gnome _____	6. chrome _____
7. sow _____	8. mode _____	9. crow _____
10. quote _____	11. loaf _____	12. oat _____
13. hello _____	14. toad _____	15. note _____

**American English Vowels, Diphthongs,
R-Colored Vowels and Diphthongs, and Consonants**

Front Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	i		
2			
3			When to use /eɪ/: 1) 2) 3)
4			
5			
6			British /ɑ/

Back Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	u		
2			
3			When to use /oʊ/: 1) 2) 3)
4			
5			

Central and R-colored Central Vowels: Complete this chart

	Symbol	When to use		Symbol	When to use
Stressed “uh”			Stressed R-Colored “er”		
Unstressed “uh”			Unstressed R-colored “er”		

Assignment 21: Contrasting Front Vowels + /u/, /ʊ/, & /o/ or /oʊ/

Circle the words with /oʊ/.

- | | | |
|-------------------|-----------------|-------------------|
| 1. float or flute | 2. coop or coke | 3. broom or broke |
| 4. boot or boat | 5. roam or room | 6. scope or snoop |
| 7. goal or good | 8. moat or mute | 9. taupe or took |

Read the transcription

Beside the transcription that does not represent a real English word, write an X.

- | | | |
|---------------------|--------------------|--------------------|
| 1. /o'eɪsɪs/ _____ | 2. /'pouɛt / _____ | 3. /pi'ænou/ _____ |
| 4. /'wʊdwind/ _____ | 5. /'wuzɪ/ _____ | 6. /'felou/ _____ |
| 7. /no'bɛl/ _____ | 8. /bi'lou/ _____ | 9. /belou/ _____ |
| 10. /gud/ _____ | 11. /glʊ/ _____ | 12. /louz/ _____ |
| 13. /'mɛlou/ _____ | 14. /prʊ/ _____ | 15. /tɪouf/ _____ |

Transcribe

- | | | |
|------------------|-------------------|------------------|
| 1. snowman _____ | 2. elbow _____ | 3. explode _____ |
| 4. tiptoe _____ | 5. postpone _____ | 6. potato _____ |
| 7. loaded _____ | 8. global _____ | 9. broken _____ |
| 10. frozen _____ | 11. slogan _____ | 12. window _____ |
| 13. oval _____ | 14. ghost _____ | 15. retook _____ |

Assignment 22: Reading & Transcribing Words with the Vowel /ɔ/

Read the transcription.

1. /bɔt/ _____	2. /fɔn/ _____	3. /lɔn/ _____
4. /kɔl/ _____	5. /sɔt/ _____	6. /kɔf/ _____
7. /gɔt/ _____	8. /sɔʊp/ _____	9. /tɔʊf/ _____
10. /tɔt/ _____	11. /bɔt/ _____	12. /sɔs/ _____
13. /bɔs/ _____	14. /kɔl/ _____	15. /lɔŋg/ _____

Transcribe

1. pause _____	2. strong _____	3. frog _____
4. haunt _____	5. law _____	6. straw _____
7. hawk _____	8. dawn _____	9. crawl _____
10. exhaust _____	11. long _____	12. spawn _____
13. coffee _____	14. taught _____	15. strong _____

Assignment 23: Contrasting Front Vowels + /u/, /ʊ/, & /o/ /ou/ or /ɔ/.

Circle the pairs of words with the same vowel sound.

- | | | |
|--------------------|---------------------|---------------------|
| 1. coffee and coat | 2. laugh and taught | 3. crown and thrown |
| 4. boot and book | 5. roam and home | 6. pow and tow |
| 7. goat and mode | 8. sew and grow | 9. taupe and rope |

Read the transcription

Beside the transcription that does not represent a real English word, write an X.

- | | | |
|----------------------|--------------------|-----------------------|
| 1. /kɒfi/ _____ | 2. /'pɛstʊ / _____ | 3. /pɔz/ _____ |
| 4. /dis'əʊn/ _____ | 5. /'wʊzi/ _____ | 6. /'brʊkən/ _____ |
| 7. /post'pəʊn/ _____ | 8. /jɒn/ _____ | 9. /'ɔgɪst/ _____ |
| 10. /skɔld/ _____ | 11. /klɔ/ _____ | 12. /'mɛksɪkʊs/ _____ |
| 13. /'ɔdɪt/ _____ | 14. /'ɔfʊl/ _____ | 15. /'beɪs'bol/ _____ |

Transcribe

- | | | |
|---------------------|-------------------|--------------------|
| 1. faucet _____ | 2. audience _____ | 3. astronaut _____ |
| 4. prelaw _____ | 5. postpone _____ | 6. dog _____ |
| 7. seesaw _____ | 8. brawny _____ | 9. faucet _____ |
| 10. automatic _____ | 11. dawning _____ | 12. catclaw _____ |
| 13. bawling _____ | 14. haunted _____ | 15. audio _____ |

Assignment 24: Reading & Transcribing Words with the Vowel /ɑ/

Read the transcription

1. /pad/ _____	2. /nat/ _____	3. /ʌd/ _____
4. /hat/ _____	5. /klat/ _____	6. /blak/ _____
7. /kan/ _____	8. /map/ _____	9. /slapi/ _____
10. /tast/ _____	11. /band/ _____	12. /bland/ _____
13. /dal/ _____	14. /ʌk/ _____	15. /dakt/ _____

Transcribe

1. soft _____	2. plot _____	3. cod _____
4. broad _____	5. robin _____	6. trot _____
7. blot _____	8. lot _____	9. stop _____
10. crock _____	11. stock _____	12. trod _____
13. drop _____	14. smock _____	15. mop _____

**American English Vowels, Diphthongs,
R-Colored Vowels and Diphthongs, and Consonants**

Front Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	i		
2			
3			When to use /eɪ/: 1) 2) 3)
4			
5			
6			British /ɑ/

Back Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	u		
2			
3			When to use /oʊ/: 1) 2) 3)
4			
5			

Central and R-colored Central Vowels: Complete this chart

	Symbol	When to use		Symbol	When to use
Stressed “uh”			Stressed R-Colored “er”		
Unstressed “uh”			Unstressed R-colored “er”		

Assignment 25: Contrasting the Front & Back Vowels

Circle the word pair of words with the same vowel sound.

- | | | |
|--------------------|--------------------|--------------------|
| 1. hog and hoagie | 2. auto and flaw | 3. hid and heat |
| 4. battle and bait | 5. eight and crate | 6. cape and caught |
| 7. golf and taught | 8. brand and apple | 9. prey and tame |

Read the transcription

Beside the transcription that represents real English words, write the word.

Beside the transcription that does not represent a real English word, write an X.

- | | | |
|----------------------|-------------------|-----------------------|
| 1. /saft/ _____ | 2. /plat/ _____ | 3. /'gʁeɪpfɪʊt/ _____ |
| 4. /'afɛn/ _____ | 5. /'falʊʊ/ _____ | 6. /klak/ _____ |
| 7. /sout/ _____ | 8. /'lafʊl/ _____ | 9. /læf/ _____ |
| 10. /'wafʊl/ _____ | 11. /'bɔbɪ/ _____ | 12. /'gɔdɪ/ _____ |
| 13. /'aptɪkʊl/ _____ | 14. /bougɔ/ _____ | 15. /'kæpɪtʊl/ _____ |

Transcribe

- | | | |
|------------------|-------------------|-------------------|
| 1. bodily _____ | 2. hollow _____ | 3. rocket _____ |
| 4. olive _____ | 5. hobby _____ | 6. holiday _____ |
| 7. rotten _____ | 8. comrade _____ | 9. concave _____ |
| 10. solace _____ | 11. soften _____ | 12. bandit _____ |
| 13. bottle _____ | 14. hospice _____ | 15. octopus _____ |

Assignment 26: Identifying All Front & Back vowels

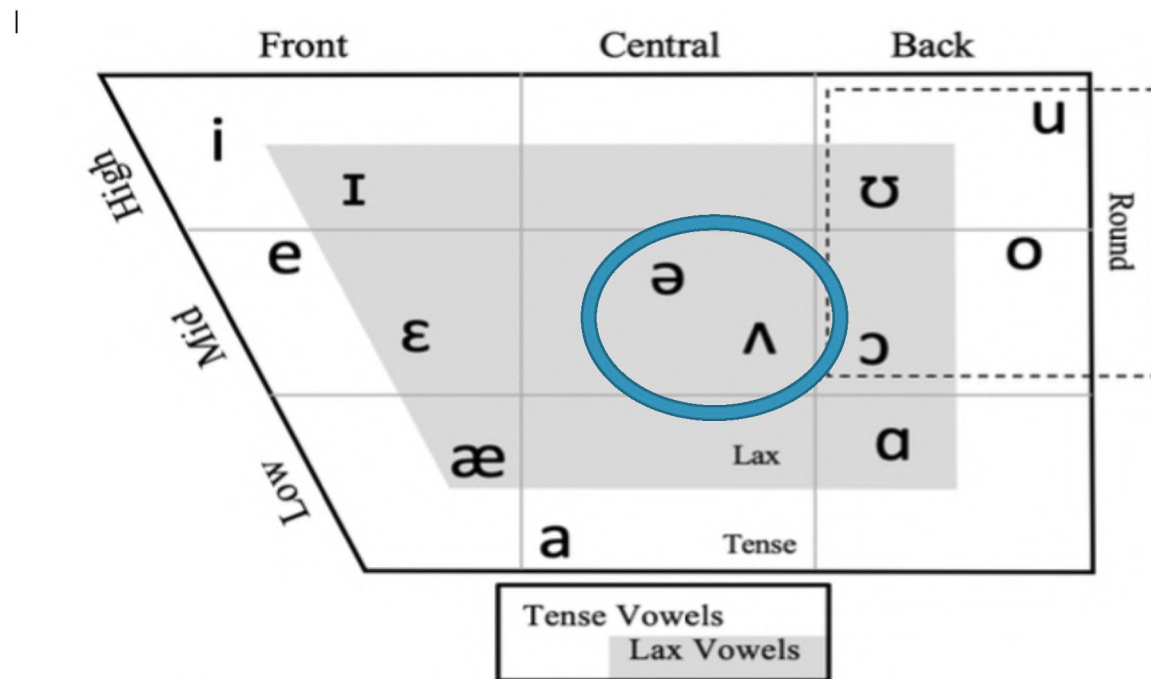
Transcribe the vowel(s) in each word in the spaces provided.

1. pony	_____	_____	2. closet	_____	_____
3. produce	_____	_____	4. office	_____	_____
5. signal	_____	_____	6. slowest	_____	_____
7. restful	_____	_____	8. profit	_____	_____
9. foolish	_____	_____	10. peaceful	_____	_____
11. combat	_____	_____	12. project	_____	_____
13. racket	_____	_____	14. follow	_____	_____
15. kitten	_____	_____	16. nonsense	_____	_____
17. yellow	_____	_____	18. even	_____	_____
19. picnic	_____	_____	20. rental	_____	_____
21. rabbit	_____	_____	22. robin	_____	_____
23. booklet	_____	_____	24. pollen	_____	_____
25. romance	_____	_____	26. object	_____	_____
27. common	_____	_____	28. rooftop	_____	_____
29. invent	_____	_____	30. agent	_____	_____
31. donate	_____	_____	32. moment	_____	_____
33. rotate	_____	_____	34. shallow	_____	_____

Vowels

Central vowels

Assignment #	Page #'s	Topic
27	39	/ʌ/
28	40	/ɜ˞r/
29	41	/ə/ & /ə˞r/
30	43	Identifying All Front, Back, and Central Vowels



Modified from standard IPA English Vowel Chart (1999) and Bay, Bodily, and Ventura (2017).

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Assignment 27: Introducing Central Vowels /ʌ/

The central vowels “uh” and “er” are represented by different symbols depending on whether they are in the stressed or unstressed syllables.

Sound	Symbol	Sound	Symbol
“uh” in a stressed syllable	ʌ	“er” in a stressed syllable	ɜː
“uh” in an unstressed syllable	ə	“er” in an unstressed syllable	ɚ

Read the transcription

Each of these words have the “uh” in the stressed syllable

1. /ʌv/ _____	2. /tʌf/ _____	3. /kʌp/ _____
4. /fʌn/ _____	5. /dʌlm/ _____	6. /mʌst/ _____
7. /klʌnk/ _____	8. /lʌŋg/ _____	9. /sʌn/ _____
10. /ʌn/ _____	11. /bʌs/ _____	12. /tʌst/ _____
13. /kʌst/ _____	14. /bʌd/ _____	15. /bʌg/ _____

Transcribe

1. lust _____	2. front _____	3. luck _____
4. numb _____	5. plumb _____	6. trot _____
7. cud _____	8. stun _____	9. hug _____
10. duck _____	11. runt _____	12. bus _____
13. pug _____	14. done _____	15. ton _____

Assignment 28: Central Vowels /ɜ-/

The central vowels “uh” and “er” are represented by different symbols depending on whether they are in the stressed or unstressed syllables

Sound	Symbol	Sound	Symbol
“uh” in a stressed syllable	ʌ	“er” in a stressed syllable	ɜː
“uh” in an unstressed syllable	ə	“er” in an unstressed syllable	ɚ

Read the transcription

Each of these words have the “er” in the stressed syllable

1. /ɜːb/ _____	2. /sɜː-/ _____	3. /tɜːn/ _____
4. /lɜː/ _____	5. /bɜːn/ _____	6. /bɜːd/ _____
7. /wɜːs/ _____	8. /tɜːd/ _____	9. /lɜːk/ _____
10. /kɜːs/ _____	11. /bʌs/ _____	12. /tʌlst/ _____
13. /bɜːn/ _____	14. /hɜː/ _____	15. /pɜːl/ _____

Transcribe

1. burst _____	2. nerve _____	3. nurse _____
4. first _____	5. earn _____	6. term _____
7. swerve _____	8. herd _____	9. swirl _____
10. perk _____	11. curb _____	12. wordy _____
13. twirl _____	14. bird _____	15. curvy _____

Assignment 29: Central Vowels /ə/ & /ɜː/

The central vowels “uh” and “er” are represented by different symbols depending on whether they are in the stressed or unstressed syllables

Sound	Symbol	Sound	Symbol
“uh” in a stressed syllable	ʌ	“er” in a stressed syllable	ɜː
“uh” in an unstressed syllable	ə	“er” in an unstressed syllable	ɚ

Read the transcription

Each of these are two syllable words with the sounds “uh” or “er” in the unstressed syllable.

1. /'bʌtə/ _____	2. /'foukəs/ _____	3. /'lʌmbə/ _____
4. /əb'ʌv/ _____	5. /'ʌpɪdə/ _____	6. /'kʌvə/ _____
7. /'ʌvə/ _____	8. /mə'ʒun/ _____	9. /ɜːk/ _____
10. /'letəs/ _____	11. /ə'weɪk/ _____	12. /ə'fækt/ _____
13. /ə'pʌn / _____	14. /bə'lun/ _____	15. /kən'tiʊəl/ _____

Transcribe

1. bacon _____	2. occur _____	3. sofa _____
4. breakfast _____	5. husband _____	6. panda _____
7. person _____	8. denim _____	9. purpose _____
10. zebra _____	11. watermelon _____	12. wordy _____

**American English Vowels, Diphthongs,
R-Colored Vowels and Diphthongs, and Consonants**

Front Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	i		
2			
3			When to use /eɪ/: 1) 2) 3)
4			
5			
6			British /ɑ/

Back Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	u		
2			
3			When to use /oʊ/: 1) 2) 3)
4			
5			

Central and R-colored Central Vowels: Complete this chart

	Symbol	When to use		Symbol	When to use
Stressed “uh”			Stressed R-Colored “er”		
Unstressed “uh”			Unstressed R-colored “er”		

Assignment 30: Identifying All Front, Back, & Central vowels

Transcribe the vowel(s) in each word in the spaces provided.

1. banana	_____	_____	_____	2. slumber	_____	_____
3. pattern	_____	_____		4. window	_____	_____
5. birdbath	_____	_____		6. doctor	_____	_____
7. operate	_____	_____	_____	8. ladybug	_____	_____
9. foolish	_____	_____		10. trusted	_____	_____
11. number	_____	_____		12. fantastic	_____	_____
13. rocket	_____	_____		14. fellowship	_____	_____
15. mistook	_____	_____		16. alligator	_____	_____
17. basement	_____	_____		18. fingerpaint	_____	_____
19. telephone	_____	_____	_____	20. happiness	_____	_____
21. grasshopper	_____	_____	_____	22. tradition	_____	_____
23. computer	_____	_____	_____	24. slippery	_____	_____
25. telephone	_____	_____	_____	26. eleven	_____	_____
27. umbrella	_____	_____	_____	28. anyway	_____	_____
29. sailboat	_____	_____		30. hamster	_____	_____
31. dishwasher	_____	_____		32. octopus	_____	_____

Vowels

Diphthongs & R-Colored Vowels

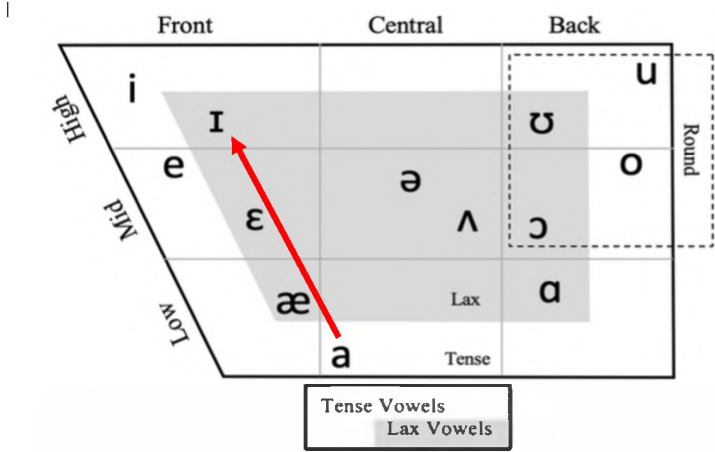
Assignment #	Page #'s	Topic
31	45-46	Introduction to Rising Diphthongs
32	47	Rising Diphthongs
33	50	Contrasting Front, Back, Central Vowels and Diphthongs
34	51	Identifying Front, Back, and Central Vowels and Diphthongs
35	52-54	Introduction to Centering Diphthongs (R-Colored Vowels) and R- Colored Diphthongs
36	55	R-Colored Vowels (Centering Diphthongs) and R-Colored Diphthongs
37	58	Contrasting All Front, Back, Central Vowels, and Diphthongs
38	59	Identifying Front, Back, Central Vowels, Diphthongs, R-Colored Vowels, and R-Colored Diphthongs
39	60-61	Introducing Spectrograms for Vowels

Assignment 31: Introduction to Rising Diphthongs /aɪ/, /aʊ/, & /ɔɪ/

Diphthongs start with one vowel sound and move to another vowel sound. Although they are a combination of two sounds, they count as one phoneme in the IPA.

Sound	Symbol	Example words
“eye”	aɪ	high, ice, like
“ou” like “ouch”	aʊ	ouch, bounce, loud
“oy”	ɔɪ	boy, coin, soil

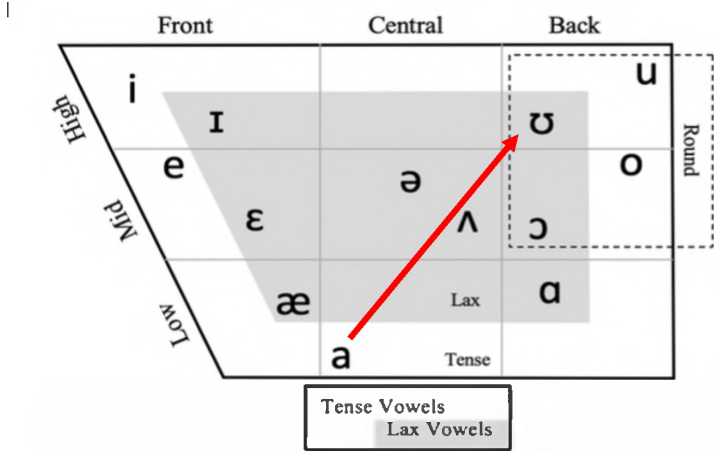
Rising diphthongs start in one location and move upwards to another location, never fully getting to the sound you hear.



The diphthong “eye” starts with the British / a / and moves towards the / i / sound, but never quite gets there. It stops at / ɪ / instead.

/ aɪ / = “eye”

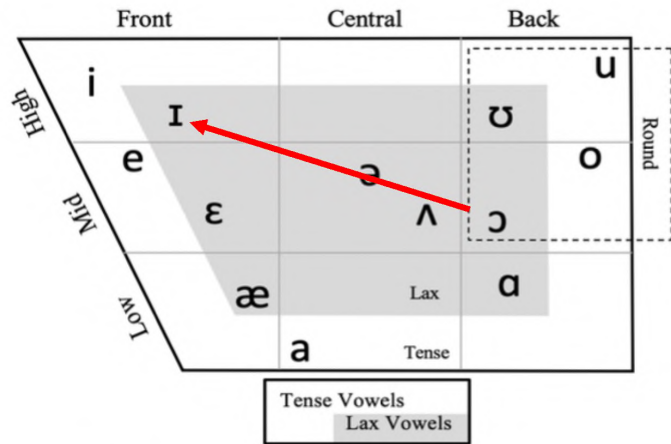
Modified from standard IPA English Vowel Chart (1999) and Bay, Bodily, and Ventura (2017).



The diphthong “ou” starts with the British / a / and moves towards the / u / sound, but never quite gets there. It stops at / ʊ / instead.

/ aʊ / = “ou” like “ouch”

Modified from standard IPA English Vowel Chart (1999) and Bay, Bodily, and Ventura (2017).



Modified from standard IPA English Vowel Chart (1999) and Bay, Bodily, and Ventura (2017).

The diphthong “oy” neither starts nor ends where you would expect.

It does NOT start with / o / and moving to / i /. Instead, it starts at the lax vowel closest to the / o / and moves to the lax vowel closes to the / i /.

It starts at the / ɔ / and moves to the / ɪ / sound.

/ ɔɪ / = “oy”

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Complete the rising diphthong chart

Sound	Symbol	Example words
“eye”	_____	_____
“ou” like “ouch”	_____	_____
“oy”	_____	_____

Assignment 32: Rising Diphthongs /aɪ/, /aʊ/ & /ɔɪ/

Read the transcription

1. /laʊd/ _____	2. /laɪk / _____	3. /tɔɪ/ _____
4. /vɔɪs/ _____	5. /kaʊnt/ _____	6. /bɔɪl/ _____
7. /haɪp/ _____	8. /ə'vɔɪd/ _____	9. /saʊnd/ _____
10. /vaʊəl/ _____	11. /tʃaɪl / _____	12. /laɪf/ _____
13. /naʊn/ _____	14. /flaɪ/ _____	15. /mɔɪst/ _____

Transcribe

1. quite _____	2. diet _____	3. point _____
4. coin _____	5. clown _____	6. down _____
7. might _____	8. toilet _____	9. fight _____
10. house _____	11. deny _____	12. island _____

**American English Vowels, Diphthongs,
R-Colored Vowels and Diphthongs, and Consonants**

Front Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	i		
2			
3			When to use /eɪ/: 1) 2) 3)
4			
5			
6			British /ɑ/

Back Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	u		
2			
3			When to use /oʊ/: 1) 2) 3)
4			
5			

Central and R-colored Central Vowels: Complete this chart

	Symbol	When to use		Symbol	When to use
Stressed “uh”			Stressed R-Colored “er”		
Unstressed “uh”			Unstressed R-colored “er”		

Diphthongs (3 diphthongs)

Sound	Symbol	Anchor words
“eye”		
“ou” like “ouch”		
“oy”		

Assignment 33: Contrasting All Front, Back, Central Vowels & Diphthongs

Read the transcription

1. /aʊt'saɪd/ _____	2. /ɛk'saɪtɪd/ _____
3. /'naɪtaɪm/ _____	4. /'kaʊbɔɪ/ _____
5. /dɪ'stɔɪ/ _____	6. /'ɔɪntmənt/ _____
7. /dɪ'faɪn/ _____	8. /dɪ'skɪaɪb/ _____
9. /'ɔɪstə/ _____	10. /ɛm'plɔɪ/ _____
11. /ə'naʊns/ _____	12. /'maʊntɪn/ _____
13. /'flaʊndə/ _____	14. /'kaɪzə/ _____

Transcribe

1. supply _____	2. trouser _____
3. trouble _____	4. groundhog _____
5. boyfriend _____	6. buoyant _____
7. powerful _____	8. resign _____
9. outlaw _____	10. identity _____
11. eyebrow _____	12. corduroy _____
13. confuse _____	14. pound cake _____

Assignment 34: Identifying Front, Back, and Central Vowels & Diphthongs

Transcribe the vowel(s) in each word in the spaces provided.

1. provide	_____	_____	2. align	_____	_____
3. decoy	_____	_____	4. soybean	_____	_____
5. society	_____	_____	6. teaspoon	_____	_____
7. thousand	_____	_____	8. papaya	_____	_____
9. kangaroo	_____	_____	10. annoy	_____	_____
11. thundercloud	_____	_____	12. isolate	_____	_____
13. voyage	_____	_____	14. realize	_____	_____
15. outgrew	_____	_____	16. poison	_____	_____
17. envelope	_____	_____	18. pinpoint	_____	_____
19. photograph	_____	_____	20. behind	_____	_____
21. computer	_____	_____	22. private	_____	_____
23. telephone	_____	_____	24. voiceless	_____	_____
25. loosen	_____	_____	26. resign	_____	_____
27. appointment	_____	_____	28. sailboat	_____	_____
29. tower	_____	_____	30. difference	_____	_____
31. sausage	_____	_____	32. reply	_____	_____

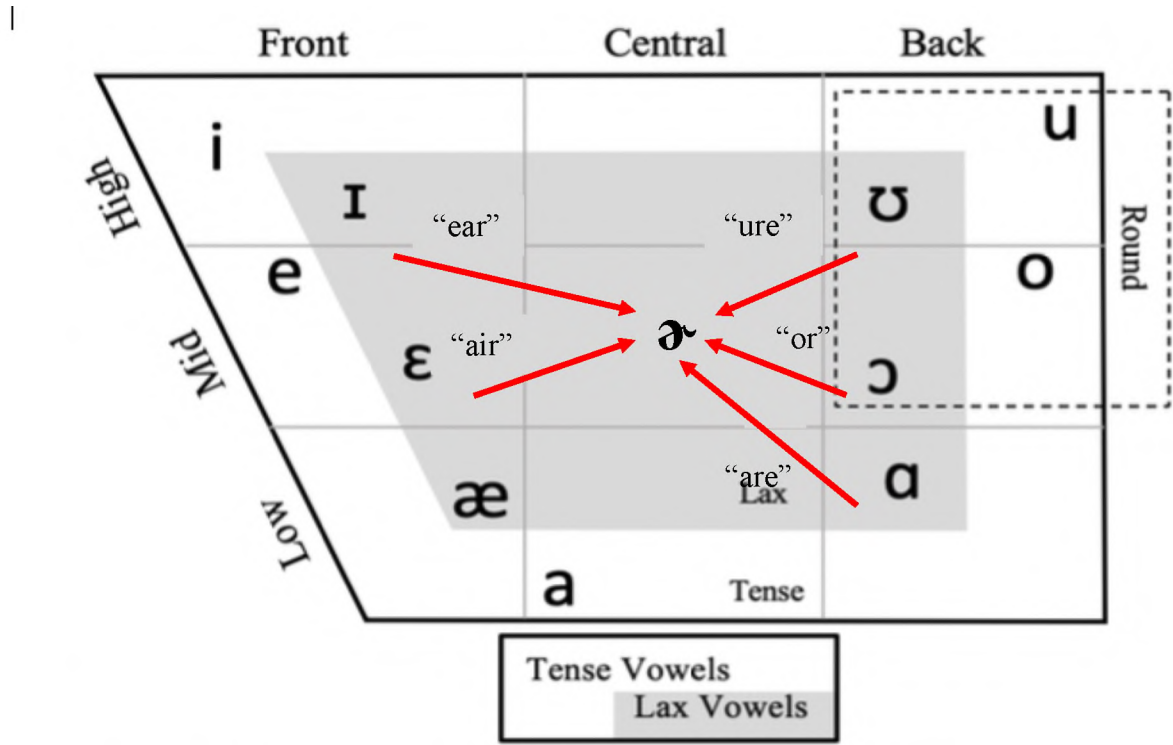
Assignment 35: Introduction to Centering Diphthongs (R-Colored Vowels) & R-Colored Diphthongs

Centering Diphthongs (R-Colored Vowels)

Sound	Symbol	Example words
“air”	ɛɪ	air, fare
“are”	ɑɪ	car, barn
“ure”	ʊɪ	cure, pure
“or”	ɔɪ	tore, pour
“ear”	ɪɪ	tear, near

Centering diphthongs start in one location and move towards the ə (schwar). Interestingly, they usually start at the lax vowel that is closest to the sound we think we hear.

For example, we think we hear / iɪ /, but our tongue never fully gets to the / i /. Our tongue starts at the / ɪ / instead when we produce / ɪɪ / (“ear”).



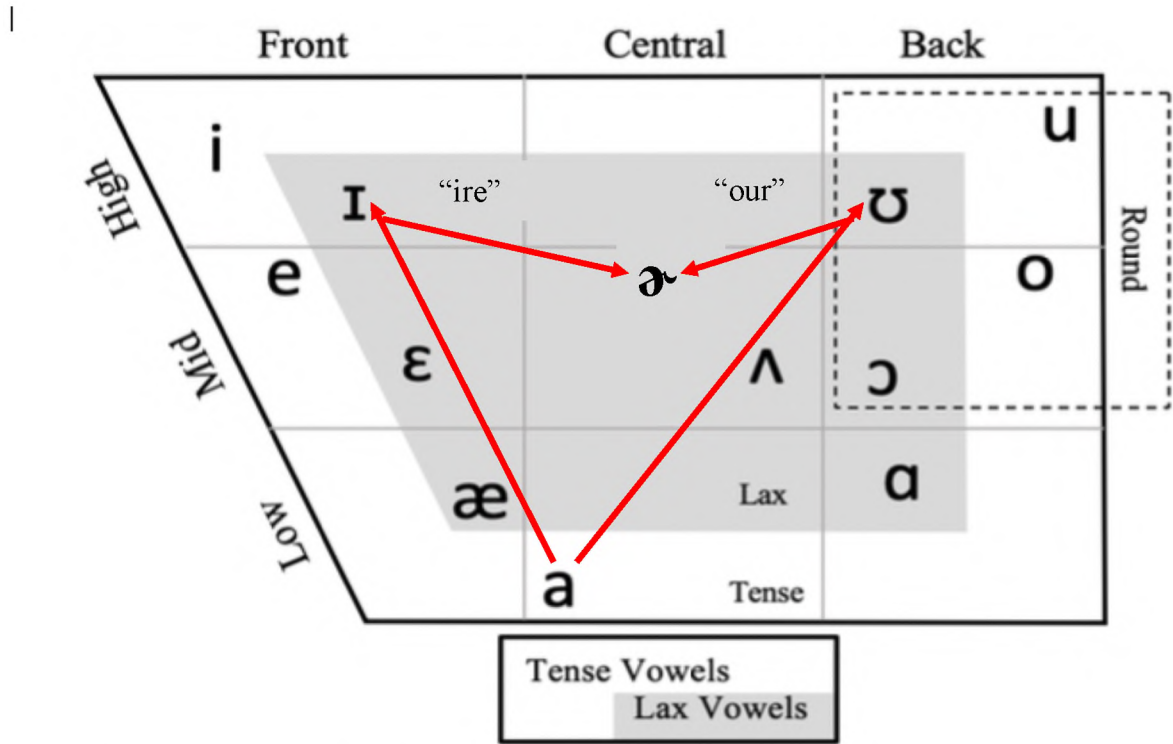
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R-Colored Diphthongs

R-colored diphthongs start with a rising diphthong / aɪ / or / aʊ / and finish off the diphthong with an / ə /.

Sound	Symbol	Example words
“ire” “eye + r”	aɪ	fire, liar
“our” “ou + r”	aʊ	flour, tower



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Complete the R-colored vowels and R-colored diphthongs chart

Sound	Symbol	Example words
“air”	_____	_____
“are”	_____	_____
“ure”	_____	_____
“or”	_____	_____
“ear”	_____	_____
“ire” “eye + r”	_____	_____
“our” “ou + r”	_____	_____

Assignment 36: R-Colored Vowels (Centering Diphthongs) & R-Colored Diphthongs

Read the transcription

1. /baɪ/ _____	2. /bleɪ/ _____	3. /kliɪ/ _____
4. /haɪ/ _____	5. /bɔɪd/ _____	6. /plaɪs/ _____
7. /aʊ/ _____	8. /fɔɪt/ _____	9. /mɪə/ _____
10. /kɛɪ/ _____	11. /ɪɪ/ _____	12. /tɔɪ/ _____
13. /fɪaɪ/ _____	14. /ʊɪ/ _____	15. /kjʊɪ/ _____

Transcribe

1. quart _____	2. flour _____	3. barn _____
4. gear _____	5. pure _____	6. corn _____
7. more _____	8. fire _____	9. marsh _____
10. hire _____	11. heart _____	12. tower _____

**American English Vowels, Diphthongs,
R-Colored Vowels and Diphthongs, and Consonants**

Front Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	i		
2			
3			When to use /eɪ/: 1) 2) 3)
4			
5			
6			British /ɑ/

Back Vowels: Complete this chart

Highest to lowest Front vowels	Vowel Symbol(s)	Anchor words	Special notes for use
1	u		
2			
3			When to use /oʊ/: 1) 2) 3)
4			
5			

Central and R-colored Central Vowels: Complete this chart

	Symbol	When to use		Symbol	When to use
Stressed “uh”			Stressed R-Colored “er”		
Unstressed “uh”			Unstressed R-colored “er”		

Diphthongs (3 diphthongs)

Sound	Symbol	Anchor words
“eye”		
“ou” like “ouch”		
“oy”		

Centering Diphthongs (Also called R-Colored vowels and diphthongs)
 Notice that very often, we use a more centered vowel (towards the middle of the mouth) than what it sounds like when we combine with /r/.

Sound	Symbol	Anchor words
“air”		
“are”		
“ure”		
“or”		
“ear”		
“ire” “eye + r”		
“our” “ou + r”		

Assignment 37: Contrasting Front, Back, Central Vowels, & Diphthongs

Read the transcription

1. /'bæntə/ _____	2. /'bɜːθstən/ _____
3. /'ɪnstəgetə/ _____	4. /gə'ɪlə/ _____
5. /ɔɪ/ _____	6. /'keɪiə/ _____
7. /'kæbɪnət/ _____	8. /'saɪkæzəm/ _____
9. /'beɪsmɪnt/ _____	10. /də'zɜːv/ _____
11. /ɪn'tʃiə/ _____	12. /su'pɪiə/ _____
13. /'dɔɪbəl/ _____	14. /keɪ'fɪ/ _____

Transcribe

1. delirious _____	2. normal _____
3. forest _____	4. expendable _____
5. outer _____	6. farewell _____
7. distraught _____	8. daycare _____
9. horseback _____	10. forbidden _____
11. destroyer _____	12. dexterity _____
13. fitness _____	14. floodgate _____

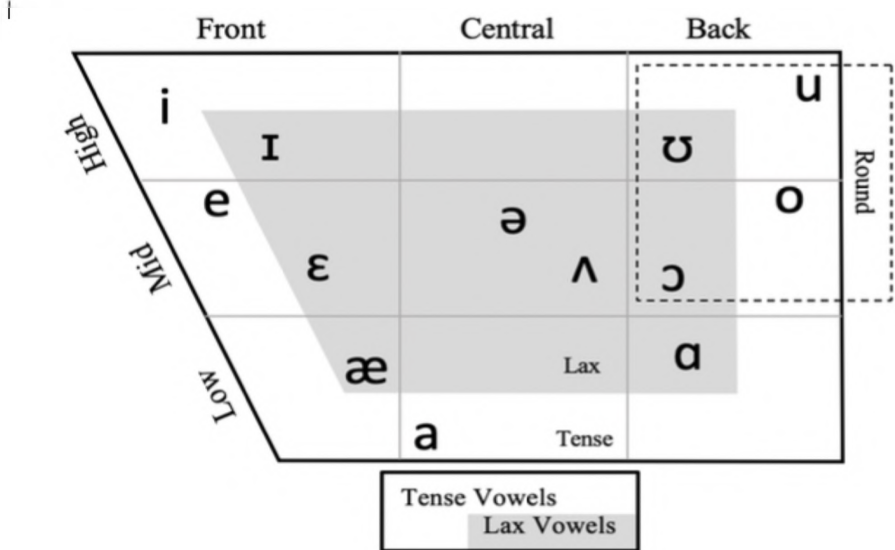
Assignment 38: Identifying Front, Back, Central Vowels, Diphthongs, R-Colored Vowels, & R-Colored Diphthongs

Transcribe the vowel(s), diphthong(s), R-colored vowel(s), and R-colored diphthongs(s) in each word in the spaces provided.

1. farmhouse	_____	_____	2. iceberg	_____	_____
3. general	_____	_____	4. glossary	_____	_____
5. guidance	_____	_____	6. birthday	_____	_____
7. guitar	_____	_____	8. headline	_____	_____
9. snowball	_____	_____	10. horseman	_____	_____
11. storyteller	_____	_____	12. lunar	_____	_____
13. material	_____	_____	14. sister	_____	_____
15. earthbound	_____	_____	16. military	_____	_____
17. daughter	_____	_____	18. charter	_____	_____
19. figure	_____	_____	20. alligator	_____	_____
21. starburst	_____	_____	22. coward	_____	_____
23. blue jean	_____	_____	24. error	_____	_____
25. airplane	_____	_____	26. narrate	_____	_____
27. appointment	_____	_____	28. sailboat	_____	_____
29. tower	_____	_____	30. avocado	_____	_____
31. sausage	_____	_____	32. reply	_____	_____

Assignment 39: Introducing Spectrograms for Vowels

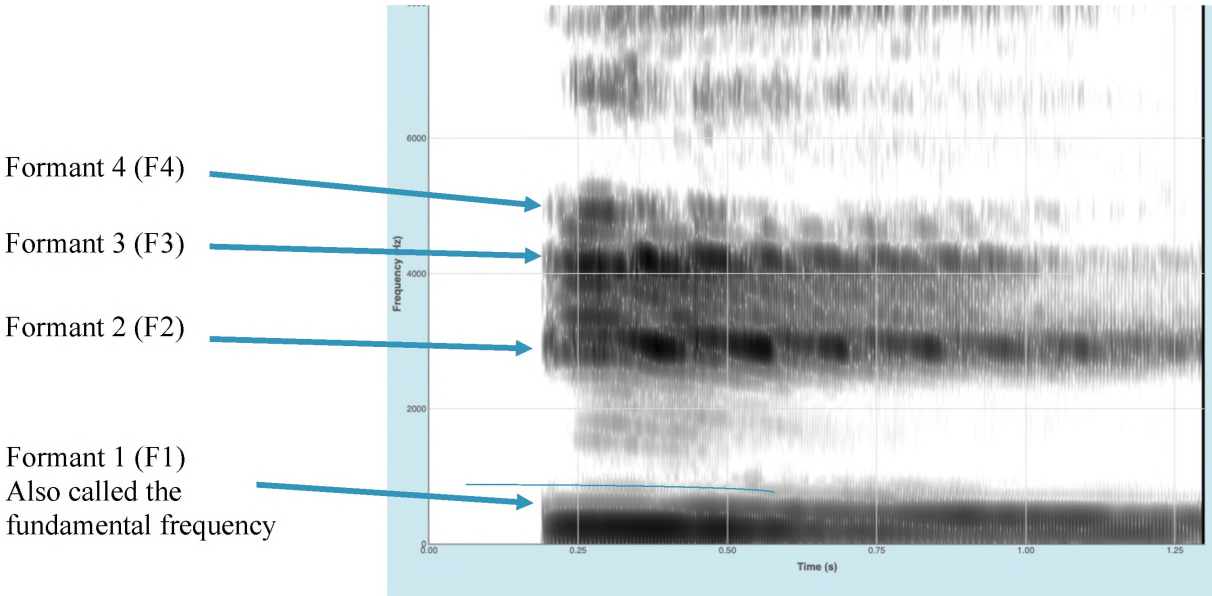
Spectrograms allow us to see a visual picture of the speech signal.



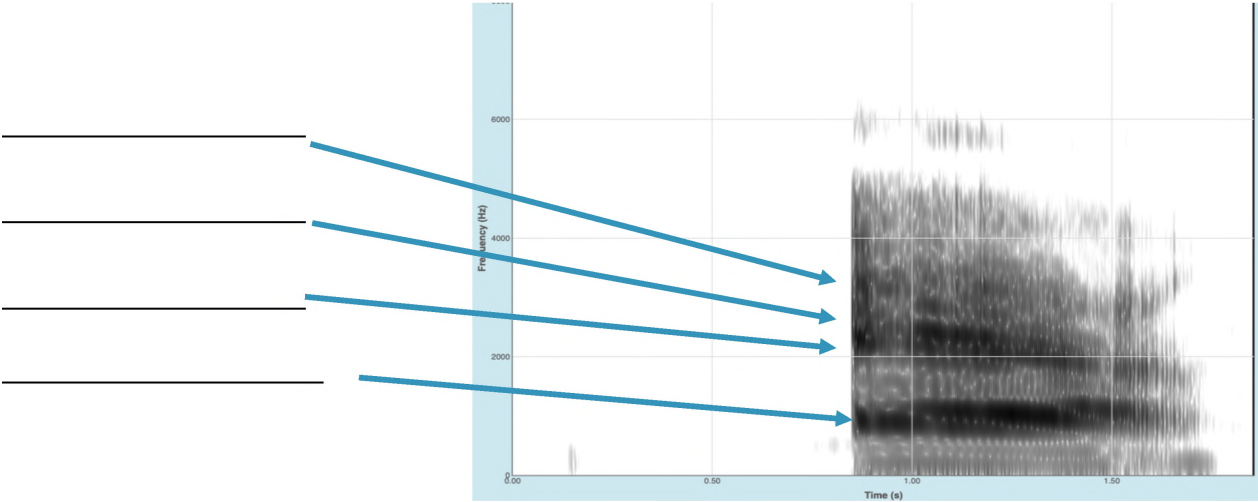
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Vowels can be identified by their formants. Formants are the dark, horizontal lines that you see in the speech signal. They represent pitches (frequencies) that are louder in the speech signal.



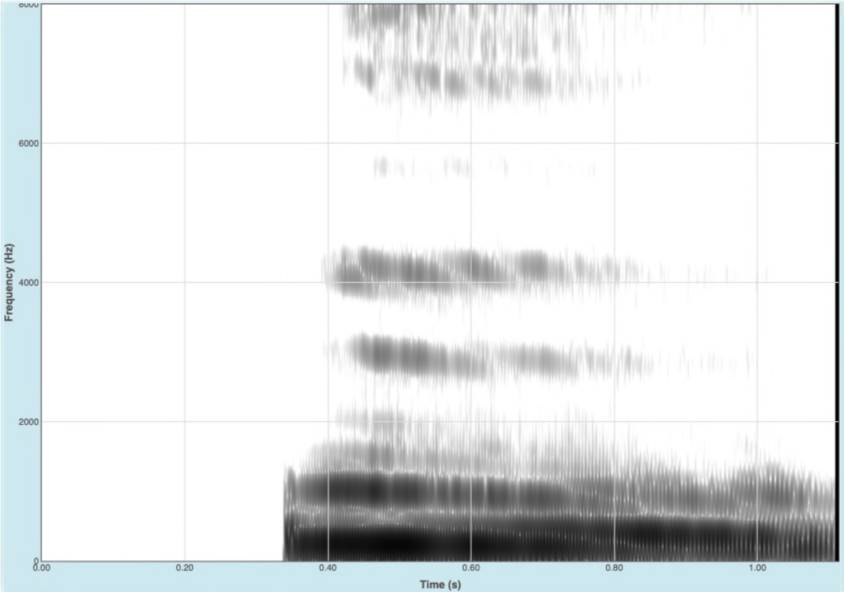
Label each formant on the lines below.



/ æ /

Draw a line from each formant label (F1, F2, F3, F4) to the appropriate formant, on the following chart.

- Formant 4 (F4)
- Formant 3 (F3)
- Formant 2 (F2)
- Formant 1 (F1)
Also called the
fundamental frequency



/ u /

Chapter 4: Consonants

Assignment #	Page #'s	Topic
40	63-64	Introducing the Place-Manner-Voicing Chart: Place
41	65-68	Introducing the Place-Manner-Voicing Chart: Manner
42	69-70	Introducing the Place-Manner-Voicing Chart: Voicing
43	71-72	Introduction to Stops
44	73	Introduction to “Tap Flap”
45	74	Introduction to Fricatives
46	75	Labiodental, Glottal and Alveolar Fricatives /f/, /v/, /h/, /s/, and /z/
47	76	Interdental Fricatives /θ/ and /ð/
48	77	Palatal Fricatives /j/ and /ʒ/
49	78	Introduction to Affricates
50	79	Affricates /tʃ/ and /dʒ/
51	80	Introduction to Nasals
52	81	Nasals /m/, /n/, and /ŋ/
53	82	Introduction to Liquids
54	83	Liquids /l/ and /r/
55	84	Introduction to Glides
56	85	Glides /w/ and /j/
57	86-87	Phrases with All Consonants—Common Idioms and Proverbs

Assignment 40: Introducing the Place-Manner-Voicing Chart

Consonants are defined by three parameters:

- (1) Place- Where the sound is made
- (2) Manner- How the sound is made
- (3) Voicing- Whether the vocal folds are vibrating or not

Places of articulation

	Manner	Voicing	Place						
			Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
Obstruents	Stop	Voiceless	/p/			/t/		/k/	?
		Voiced	/b/			/d/		/g/	
	Fricative	Voiceless		/f/	/θ/	/s/	/ʃ/		/h/
		Voiced		/v/	/ð/	/z/	/ʒ/		
	Affricate	Voiceless					/tʃ/		
		Voiced					/dʒ/		
Sonorants	Nasal	Voiced	/m/			/n/		/ŋ/	
	Liquid	Lateral				/l/			
		Rhotic	Voiced				/ɹ/		
		Glide	Voiced	/w/			/j/	/w/	

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Look at the Place-Manner-Voicing Chart above. List each of the places of articulation:

- (1) _____
- (2) _____
- (3) _____
- (4) _____
- (5) _____
- (6) _____
- (7) _____

Places of Articulation

The names of the places of articulation are a huge hint to where the sounds are made (which articulators are involved in producing the sounds).

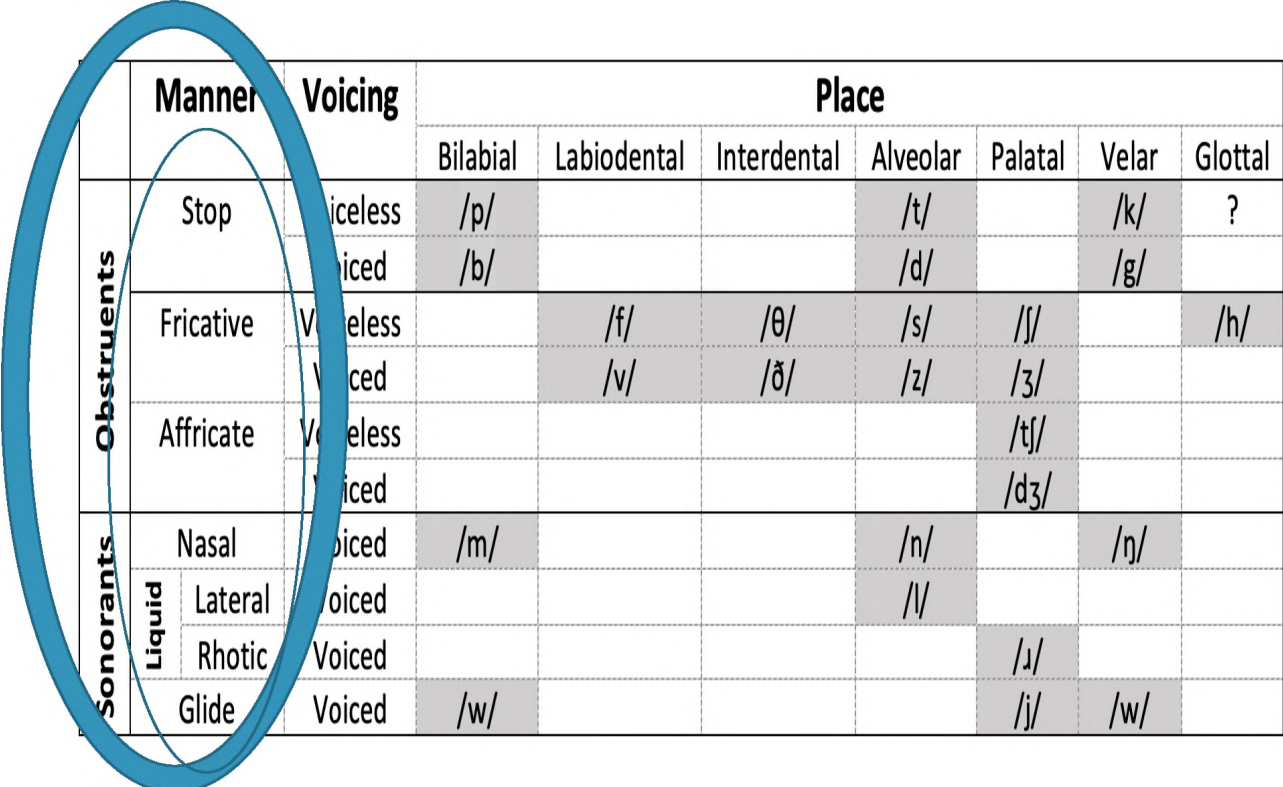
- (1) **Bilabial**— “bi” means two, “labia” means lips. Bilabial means “two lips.” The two lips come together to make these sounds.
- (2) **Labiodental**— “labia” means lips, “dental” means teeth. Labiodental sounds are made with the lips and the teeth. You bite your bottom lip to make these sounds.
- (3) **Interdental**— “inter” means between, “dental” means teeth. Interdental sounds are made with the tongue between the teeth. You stick out your tongue and bite it to make these sounds.
- (4) **Alveolar**— “alveolar” sounds are made on the alveolar ridge.
- (5) **Palatal**— “palatal” sounds are made on the hard palate.
- (6) **Velar**— “velar” sounds are made on the velum/ soft palate. The tongue backs up and makes contact with the velum to produce these sounds.

Look at the place-manner-voicing chart. Which sounds are produced in each place of articulation?

- (1) **Bilabial**— _____
- (2) **Labiodental**— _____
- (3) **Interdental**— _____
- (4) **Alveolar**— _____
- (5) **Palatal**— _____
- (6) **Velar**— _____

Assignment 41: Introducing the Place-Manner-Voicing Chart

Manners of Articulation



	Manner	Voicing	Place						
			Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
Obstruents	Stop	Voiceless	/p/			/t/		/k/	?
		Voiced	/b/			/d/		/g/	
	Fricative	Voiceless		/f/	/θ/	/s/	/ʃ/		/h/
		Voiced		/v/	/ð/	/z/	/ʒ/		
Affricate	Voiceless					/tʃ/			
	Voiced					/dʒ/			
Sonorants	Nasal	Voiced	/m/			/n/		/ŋ/	
	Liquid	Lateral	Voiced			/l/			
		Rhotic	Voiced				/ɹ/		
	Glide	Voiced	/w/			/j/	/w/		

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Manners of Articulation

Look at the Place-Manner-Voicing Chart above. List each of the manners of articulation (in the thin oval above):

- (1) _____
- (2) _____
- (3) _____
- (4) _____
- (5) _____
- (6) _____
- (7) _____

Manners of Articulation

The names of the manners of articulation also hint at how the sounds are made.

(1) **Stop**— Stops are also called “plosives.” The sound stops temporarily when our articulators make contact. The air builds up behind that closure. The articulators then burst open producing a small explosion/burst of sound.

(2) **Fricative**— Fricatives are noisy sounds. Fricatives are made when the articulators come in close proximity, but do not completely close. When air is forced through that tight space, the air becomes turbulent or noisy.

For example, to produce the sound /s/, we place our tongue very close to (but not touching) the alveolar ridge. When the sound moves through, it becomes turbulent.

(3) **Affricate**— Affricates are composed of both a stop and a fricative. The sound stops and then bursts open in a noisy way.

(4) **Nasal**— Nasals are made with the sound resonating through the nose. To produce a nasal, the velum is relaxed. This leaves the port between the velum and the pharyngeal wall (the back of the throat) open. The sound is redirected through the nose and resonates in the nasal cavity.

(5) **Lateral**— Lateral stands for /l/. Lateral sounds are produced with the sound escaping via the lateral sides of the tongue.

(6) **Rhotic**— Rhotic stands for /r/. This sound can be made by curling the tip of the tongue towards the hard palate, just behind the alveolar ridge. It can also be made by bunching the tongue in the back of the mouth.

(7) **Glide**— Glides are also called semi-vowels. They are made with a relatively open vocal tract, in comparison to other consonants, but still more closed than vowels. They can only be produced in syllable initial position.

Manners of Articulation

Look at the place-manner-voicing chart. Which sounds are produced with each manner of articulation?

- (1) **Stop**— _____
- (2) **Fricative**— _____
- (3) **Affricate**— _____
- (4) **Nasal**— _____
- (5) **Lateral**— _____
- (6) **Rhotic**— _____
- (7) **Glide**— _____

Obstruents— Obstruents are sounds produced with a reasonably large amount of obstruction in the mouth.

Look again at the thicker oval, which of the manners of articulation are classified as obstruents?

- (1) _____
- (2) _____
- (3) _____

Sonorants— Sonorants are produced with continuous airflow through the vocal tract.

Which of the manners of articulation are classified as sonorants?

(1) _____

(2) _____

(3) _____

(4) _____

Liquids

Now look more closely at the thicker oval in the place-manner-voicing chart above, which of the manners of articulation are classified as liquids? Which sounds are liquids?

(1) Manner: _____ Sound: _____

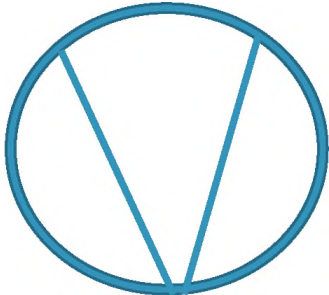
(2) Manner: _____ Sound: _____

Assignment 42: Introducing the Place-Manner-Voicing Chart

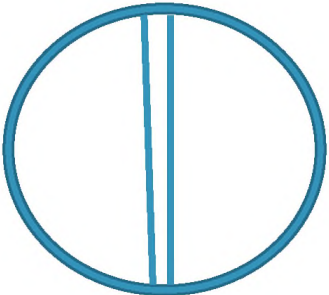
Voicing

Sounds are either **voiced** (the vocal folds are vibrating) or **unvoiced** (the vocal folds are not vibrating). Voicing refers to whether the vocal folds are vibrating or not.

If the vocal folds are abducted (in open position), air from the lungs can pass freely through the vocal folds without producing voicing. The sound remains **unvoiced**.



If the vocal folds are adducted (together), the air builds up beneath the vocal folds. When the air pressure builds up enough, the vocal folds burst apart. After the air pressure is released, the vocal folds come back together. This rapid opening and closing of the vocal folds is called voicing. This is how **voiced** sounds are produced.



	Manner	Voicing	Place						
			Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
Obstruents	Stop	Voiceless	/p/			/t/		/k/	?
		Voiced	/b/			/d/		/g/	
	Fricative	Voiceless		/f/	/θ/	/s/	/ʃ/		/h/
		Voiced		/v/	/ð/	/z/	/ʒ/		
	Affricate	Voiceless					/tʃ/		
		Voiced					/dʒ/		
Sonorants	Nasal	Voiced	/m/			/n/		/ŋ/	
	Liquid	Lateral				/l/			
		Rhotic	Voiced					/ɹ/	
	Glide	Voiced	/w/				/j/	/w/	

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Voicing

Look at the Place-Manner-Voicing chart. Which sounds are voiced? Which sounds are unvoiced? (Write the symbols for each sound in the chart below.)

Voiced Sounds	Unvoiced Sounds

Assignment 43: Introduction to Stops

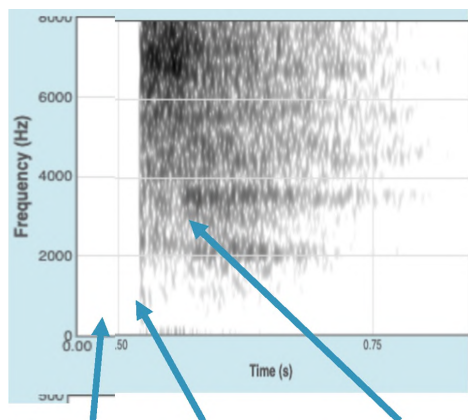
Stop— Stops are also called “plosives.” The sound stops temporarily when our articulators make contact. The air builds up behind that closure. The articulators then burst open producing a small explosion/burst of sound.

Complete the stop consonants section of this place manner voicing chart.

	Manner	Voicing	Place						
			Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
Obstruents	Stop	Voiceless	/p/			/t/		/k/	?
		Voiced	/b/			/d/		/g/	
	Fricative	Voiceless		/f/	/θ/	/s/	/ʃ/		/h/
		Voiced		/v/	/ð/	/z/	/ʒ/		
	Affricate	Voiceless					/tʃ/		
		Voiced					/dʒ/		
Sonorants	Nasal	Voiced	/m/			/n/		/ŋ/	
	Liquid	Lateral	Voiced				/l/		
		Rhotic	Voiced					/ɹ/	
		Glide	Voiced	/w/				/j/	/w/

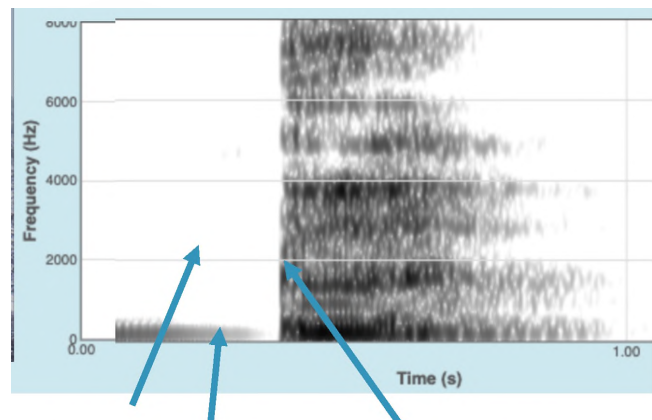
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Spectrogram of Stops— A spectrogram is a picture of the voice signal.



Stop gap Burst release Noise

Spectrogram for /p/. Notice how the sound stops before the sound bursts open. Because the sound is unvoiced, the sound signal looks noisy after the burst.



Stop gap Voice bar Burst release

Spectrogram for /b/. Notice how the sound stops before the sound bursts open. However, during that stop gap, there is voicing.

Stops

Read the transcription

1. /'bʊkənd/	_____	2. /'tɒpɪk/	_____
3. /'pleɪɔf/	_____	4. /'pɜːsən/	_____
5. /'dæpə/	_____	6. /'pɪvɪt/	_____
7. /'kɪtɪ/	_____	8. /'tæpə/	_____
9. /'bɑːbə/	_____	10. /'gæləp/	_____
11. /'teɪkɪŋ/	_____	12. /'gɑːdn/	_____
13. /dɪs'eɪbəl/	_____	14. /'kɪkə/	_____

Transcribe

1. program	_____	2. kingdom	_____
3. buffet	_____	4. pamper	_____
5. giggle	_____	6. brazil	_____
7. pouring	_____	8. glossary	_____
9. bulldoze	_____	10. glamorous	_____
11. parent	_____	12. burrito	_____
13. getaway	_____	14. playbook	_____

Assignment 44: Introduction to “Tap Flap”

Tap Flap— The “tap flap” sound (also known as the alveolar flap) is produced by the tongue quickly tapping the alveolar ridge and lowering to the position for the vowel that is to come.

Read the transcription

1. /'mæɹə/	_____	2. /'wɔɹə /	_____
3. /'tɔʊɹʊ/	_____	4. /'dɔɹə/	_____
5. /'fæɹɛst/	_____	6. /'nɪɹɪŋ/	_____
7. /'taɪɹl/	_____	8. /'hɪɹə/	_____
9. /'weɪɹə/	_____	10. /'dʒɹi/	_____

Transcribe

1. kitten	_____	2. bitter	_____
3. settle	_____	4. forty	_____
5. meter	_____	6. witty	_____
7. bidding	_____	8. rattle	_____
9. motor	_____	10. party	_____

Assignment 45: Introduction to Fricatives

Fricative— Fricatives are noisy sounds. Fricatives are made when the articulators come in close proximity, but do not completely close. When air is forced through that tight space, the air becomes turbulent or noisy.

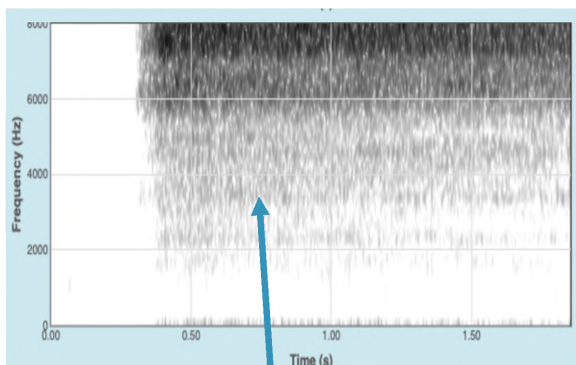
For example, to produce the sound /s/, we place our tongue very close to (but not touching) the alveolar ridge. When the sound moves through, it becomes turbulent.

Complete the fricative consonants section of this place manner voicing chart.

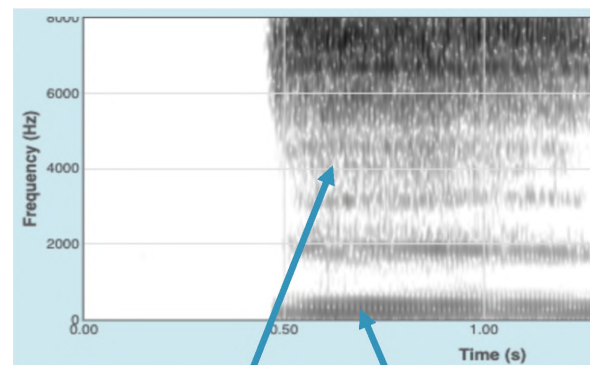
	Manner	Voicing	Place						
			Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
Obstruents	Stop	Voiceless	/p/			/t/		/k/	?
		Voiced	/b/			/d/		/g/	
	Fricative	Voiceless		/f/	/θ/	/s/	/ʃ/		/h/
		Voiced		/v/	/ð/	/z/	/ʒ/		
	Affricate	Voiceless					/tʃ/		
		Voiced					/dʒ/		
Sonorants	Nasal	Voiced	/m/			/n/		/ŋ/	
	Liquid	Lateral	Voiced			/l/			
		Rhotic	Voiced				/ɹ/		
		Glide	Voiced	/w/			/j/	/w/	

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Spectrogram of Fricatives



Spectrogram for /s/. Notice the noise (disorganization) of the signal.



Spectrogram for /z/. Notice the noise (disorganization) of the signal and the voice bar at the bottom.

Assignment 46: Labiodental, Glottal and Alveolar Fricatives /f/, /v/, /h/, /s/, & /z/

Read the transcription

1. /fɔɪ' bɪd/	_____	2. /'væljʊ/	_____
3. /'sɪŋgəl/	_____	4. /'hɔɪə/	_____
5. /'sɜːvə/	_____	6. /'zɪbrə/	_____
7. /'fʊft/	_____	8. /'vɔʊkʊl/	_____
9. /zɪpə/	_____	10. /'seɪlə/	_____
11. /'hɪstəɪ/	_____	12. /'vɪləm/	_____
13. /'hɑləʊ/	_____	14. /'fɪvə/	_____

Transcribe

1. hinder	_____	2. football	_____
3. sailboat	_____	4. faster	_____
5. helmet	_____	6. simmer	_____
7. symbol	_____	8. favorite	_____
9. honey	_____	10. holiday	_____
11. hockey	_____	12. impose	_____
13. innocence	_____	14. farewell	_____

Assignment 47: Interdental Fricatives /θ/ & /ð/

Read the transcription

1. /suð/	_____	2. /'θʌndə/	_____
3. /'θɪmbʊl/	_____	4. /'θɪkə/	_____
5. /'fɜːðə/	_____	6. /ði/	_____
7. /'θiətə/	_____	8. /'mʌðə/	_____
9. /ðɪs/	_____	10. /'θɪnə/	_____
11. /'θɪŋkɪŋg/	_____	12. /feɪθ/	_____
13. /'nʌθɪŋg/	_____	14. /'leðə/	_____

Transcribe

1. Thursday	_____	2. breathy	_____
3. though	_____	4. north	_____
5. thaw	_____	6. thine	_____
7. thought	_____	8. father	_____
9. further	_____	10. thoughtful	_____
11. gather	_____	12. wrath	_____
13. fifth	_____	14. strength	_____

Assignment 48: Palatal Fricatives /ʃ/ & /ʒ/

Read the transcription

1. /'liʒə/	_____	2. /'ʃivə/	_____
3. /beɪʒ/	_____	4. /'ʒædəʊ/	_____
5. /'fɪʒə/	_____	6. /'ʃɪmə/	_____
7. /'ʃeɪpə/	_____	8. /'mɛʒə/	_____
9. /ə'kæmpɪʃ/	_____	10. /ʃeɪd/	_____
11. /ʃɪp/	_____	12. /'fɪʒə-mɪn/	_____
13. /'ɑʒə/	_____	14. /'gʌɪʒ/	_____

Transcribe

1. compassion	_____	2. rouge	_____
3. bougie	_____	4. bourgeoisie	_____
5. shimmer	_____	6. shiny	_____
7. shush	_____	8. shredding	_____
9. cash	_____	10. rushing	_____
11. spaceship	_____	12. fishbowl	_____
13. shorten	_____	14. moustache	_____

Assignment 49: Introduction to Affricates

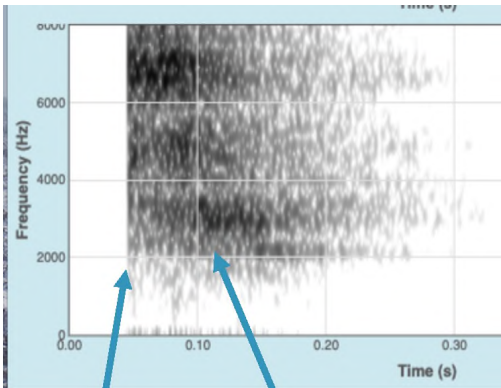
Affricates— Affricates are composed of both a stop and a fricative. The sound stops and then bursts open in a noisy way.

Complete the affricate consonants section of this place manner voicing chart.

	Manner	Voicing	Place						
			Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
Obstruents	Stop	Voiceless	/p/			/t/		/k/	?
		Voiced	/b/			/d/		/g/	
	Fricative	Voiceless		/f/	/θ/	/s/	/ʃ/		/h/
		Voiced		/v/	/ð/	/z/	/ʒ/		
	Affricate	Voiceless					/tʃ/		
		Voiced					/dʒ/		
Sonorants	Nasal	Voiced	/m/			/n/		/ŋ/	
	Liquid	Lateral				/l/			
		Rhotic	Voiced				/ɹ/		
	Glide	Voiced	/w/				/j/	/w/	

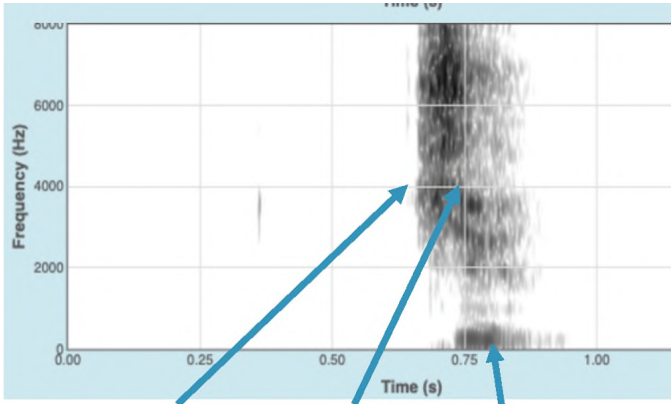
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Spectrogram of Affricates



Burst release Noise

Spectrogram for /tʃ/. Notice the burst release followed by noise.



Burst release Noise Voice bar

Spectrogram for /dʒ/. Notice the burst release followed by noise. But during that noise there is voicing.

Assignment 50: Affricates /tʃ/ & /dʒ/

Read the transcription

1. /'tʃouzen/	_____	2. /'dʒʌdʒment/	_____
3. /'tʃɪmni/	_____	4. /'dʒʌstɪfaɪ/	_____
5. /'tʃɪldɪən/	_____	6. /ɪntə-'tʃeɪndʒ/	_____
7. /'stɪtʃɪŋg/	_____	8. /ə'dʒʌst/	_____
9. /'ɛndʒɪn/	_____	10. /'dʒɪndʒə/	_____
11. /'stueɪndʒə/	_____	12. /'mædʒɪk/	_____
13. /'mætʃəs/	_____	14. /'kɛtʃəp/	_____

Transcribe

1. badger	_____	2. mortgage	_____
3. village	_____	4. spinach	_____
5. jumping	_____	6. hatching	_____
7. chapter	_____	8. research	_____
9. pillage	_____	10. rushing	_____
11. danger	_____	12. giraffe	_____
13. joker	_____	14. ostrich	_____

Assignment 51: Introduction to Nasals

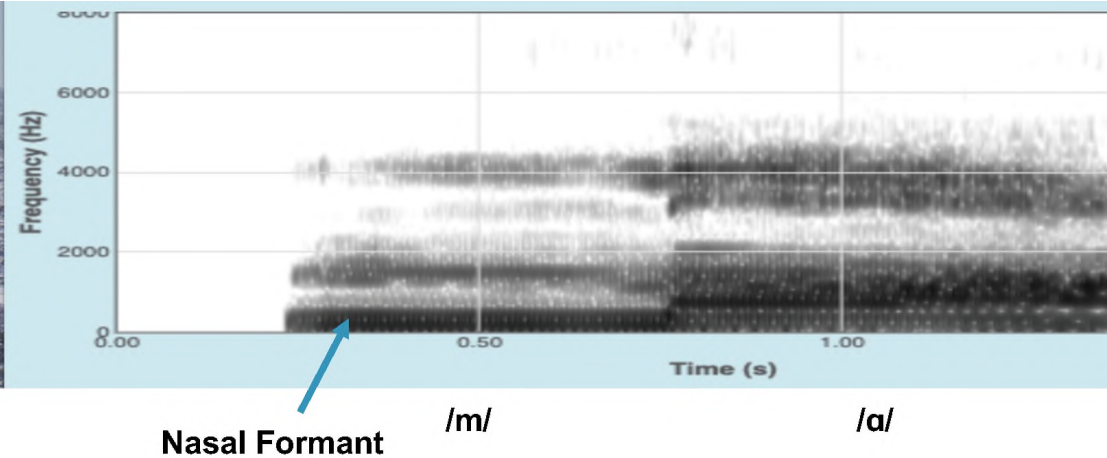
Nasal— Nasals are made with the sound resonating through the nose. To produce a nasal, the velum is relaxed. This leaves the port between the velum and the pharyngeal wall (the back of the throat) open. The sound is redirected through the nose and resonates in the nasal cavity.

Complete the nasal consonants section of this place manner voicing chart.

	Manner	Voicing	Place						
			Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
Obstruents	Stop	Voiceless	/p/			/t/		/k/	?
		Voiced	/b/			/d/		/g/	
	Fricative	Voiceless		/f/	/θ/	/s/	/ʃ/		/h/
		Voiced		/v/	/ð/	/z/	/ʒ/		
	Affricate	Voiceless					/tʃ/		
		Voiced					/dʒ/		
Sonorants	Nasal	Voiced	/m/			/n/		/ŋ/	
	Liquid	Lateral				/l/			
		Rhotic					/ɹ/		
	Glide	Voiced	/w/				/j/	/w/	

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Spectrogram of a Nasal Sound



Spectrogram for / m /. Notice the thick dark line at the bottom of the chart for the /m/ sound. This is a nasal formant. A nasal formant is usually found below the bottom horizontal line (Formant 1) of the vowel beside it.

Assignment 52: Nasals /m/, /n/, & /ŋ/

Read the transcription

1. /'meɪləʊ/	_____	2. /'mæənə/	_____
3. /'nʌmbə/	_____	4. /'membə/	_____
5. /'θeɪŋkɪŋg/	_____	6. /'numəʊl/	_____
7. /'mɛndɪŋg/	_____	8. /'nɔːmʊl/	_____
9. /'nʌmɪŋg/	_____	10. /'θɪŋkɪŋg/	_____
11. /'mɪnɪmʊl/	_____	12. /'neɪmɪŋg/	_____
13. /'mɪnɪŋg/	_____	14. /'fʌni/	_____

Transcribe

1. impress	_____	2. noble	_____
3. tanker	_____	4. drink	_____
5. inflate	_____	6. northern	_____
7. chunky	_____	8. nature	_____
9. maniac	_____	10. ranking	_____
11. immature	_____	12. insect	_____
13. maybe	_____	14. mountain	_____

Assignment 53: Introduction to Liquids

Liquids include laterals and rhotics:

- (1) **Lateral**— Lateral stands for //l/. Lateral sounds are produced with the sound escaping via the lateral sides of the tongue.
- (2) **Rhotic**— Rhotic stands for /ɹ/. This sound can be made by curling the tip of the tongue towards the hard palate, just behind the alveolar ridge. It can also be made by bunching the tongue in the back of the mouth.

Complete the liquid consonants section of this place manner voicing chart.

	Manner	Voicing	Place						
			Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
Obstruents	Stop	Voiceless	/p/			/t/		/k/	?
		Voiced	/b/			/d/		/g/	
	Fricative	Voiceless		/f/	/θ/	/s/	/ʃ/		/h/
		Voiced		/v/	/ð/	/z/	/ʒ/		
	Affricate	Voiceless					/tʃ/		
		Voiced					/dʒ/		
Sonorants	Nasal	Voiced	/m/			/n/		/ŋ/	
	Liquid	Lateral	Voiced				/l/		
		Rhotic	Voiced					/ɹ/	
	Glide	Voiced	/w/				/j/	/w/	

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Assignment 54: Liquids /l/ & //

Read the transcription

1. /'roulə-aɪz/ _____	2. /'tʌɛnkwɪlaɪzə/ _____
3. /'roulə/ _____	4. /'ælfəbətəɪz/ _____
5. /oʊnə-'kwɔɪfɑɪd/ _____	6. /'kɒlə/ _____
7. /'bɒltə-flaɪ/ _____	8. /'blækbeɪ/ _____
9. /mɛlo'dɪəmə/ _____	10. /'mɪɹəkʊl/ _____
11. /ovə-eks'pleɪn/ _____	12. /jɪ'fleksɪv/ _____
13. /'kɒɹməzən/ _____	14. /'hɑɪtbɹokən/ _____

Transcribe

1. fertilization _____	2. breathalyzer _____
3. clickthrough _____	4. extract _____
5. tropical _____	6. treasury _____
7. circulate _____	8. jeopardy _____
9. metabolize _____	10. revitalizing _____
11. reclaiming _____	12. reasonable _____
13. overcompensate _____	14. recorder _____

Assignment 55: Introduction to Glides

Glide— Glides are also called semi-vowels. They are made with a relatively open vocal tract, in comparison to other consonants, but still more closed than vowels. They can only be produced in syllable initial position.

Complete the glide consonants section of this place manner voicing chart.

	Manner	Voicing	Place						
			Bilabial	Labiodental	Interdental	Alveolar	Palatal	Velar	Glottal
Obstruents	Stop	Voiceless	/p/			/t/		/k/	?
		Voiced	/b/			/d/		/g/	
	Fricative	Voiceless		/f/	/θ/	/s/	/ʃ/		/h/
		Voiced		/v/	/ð/	/z/	/ʒ/		
	Affricate	Voiceless					/tʃ/		
		Voiced					/dʒ/		
Sonorants	Nasal	Voiced	/m/			/n/		/ŋ/	
	Liquid	Lateral				/l/			
		Rhotic	Voiced				/ɹ/		
	Glide	Voiced	/w/				/j/	/w/	

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Assignment 56: Glides /w/ & /j/

Read the transcription

1. /'ju:nɪkəʊn/	_____	2. /'wɜ:lɔwaɪd/	_____
3. /ɪndɪ'vɪdʒju:s/	_____	4. /'ju:nɪsən/	_____
5. /'jeləʊ/	_____	6. /'twɪtə/	_____
7. /'jəʊdʊl/	_____	8. /'kɑ:pɪaɪt	_____
9. /'hɛvɪwɛt/	_____	10. /'lɪkwɪd/	_____
11. /'bjutɪfʊl/	_____	12. /ɪ'ju:z/	_____
13. /'jɒnɪŋg/	_____	14. /waɪz/	_____

Transcribe

1. cute	_____	2. shoe	_____
3. wiggle	_____	4. bewilder	_____
5. continue	_____	6. accuracy	_____
7. situated	_____	8. casual	_____
9. century	_____	10. weary	_____
11. pollywog	_____	12. sideways	_____
13. reward	_____	14. yearning	_____

Assignment 57: Phrases with All Consonants—Common Idioms and Proverbs

Read the transcription

1. /ʌ 'blɛsɪŋ ɪn dɪs'gɑɪz/ _____

2. /ʌ daɪm ʌ 'dʌzən/ _____

3. /bɪt ə'ʒaʊnd ðʌ bʊf/ _____

4. /kəl ɪt ʌ deɪ/ _____

5. /kʌt hɪm sʌm slæk/ _____

6. /ɡet ɪt aʊt ʌv jɔɪ 'sɪstəm/ _____

7. /heɪŋ ɪn ðeɪ/ _____

8. /ɪts nɑt 'ʒɑkət 'saɪəns/ _____

9. /let hɜː ɔf ðʌ hʊk/ _____

10. /pʊl jɔɪ'self tu'ɡeðə/ _____

11. /ðʌ beɪst ʌv baʊθ wɜːldz/ _____

12. /ʌndə ðʌ 'weðə/ _____

13. /ʌ pɛni fɔɪ jɔɪ θɑts/ _____

14. /'bɑ:kɪŋ ʌp ðʌ ʒɑŋg tʃi/ _____

Write the transcription

Break the ice _____

Better late than never _____

Bite the bullet _____

get your act together _____

Go back to the drawing board _____

Hit the sack _____

Make a long story short _____

Time flies _____

Wrap your head around it _____

The perfect storm _____

Add insult to injury _____

Comparing apples to oranges _____

Don't count your chickens _____

Don't cry over spilt milk _____

Chapter 4: Acoustics

Assignment #	Page #'s	Topic
58	89-91	Introduction to Acoustics— Waveforms
59	92-93	Spectrograms
60	94	Recognizing Consonants on the Spectrogram—Stops
61	95	Recognizing Consonants on the Spectrogram—Fricatives
62	96	Recognizing Consonants on the Spectrogram—Affricates
63	97	Recognizing Consonants on the Spectrogram—Nasals
64	98	Recognizing Consonants on the Spectrogram—Velars
65	99	Recognizing Vowels on the Spectrogram
66	100	Acoustics Summary

Assignment 58: Introduction to Acoustics— Waveforms

There are three parameters of sounds that are often measured. These include time, frequency, and intensity.

Sound travels in waves through the air. When these sounds reach your eardrum, your eardrum vibrates. Bones attached to your eardrum (i.e., malleus, incus, stapes) rock back and forth in response. This causes the oval window of the cochlea to rock back and forth. This movement (of the oval window) causes the fluid in the cochlea to vibrate. The result is that the hairs in the cochlea move. This message is then sent to the brain via the auditory nerve.

The structure of sound waves

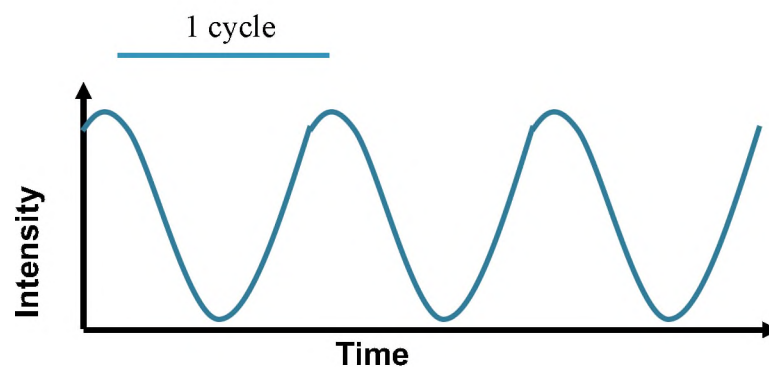
This is a waveform. A waveform represents a wave's movement across time.

Time is how long a sound lasts (often measured in seconds).

Intensity is how large the sound wave is. It is also called amplitude. It perceptually correlates with (you hear it as) loudness. It is measured in decibels (dB).

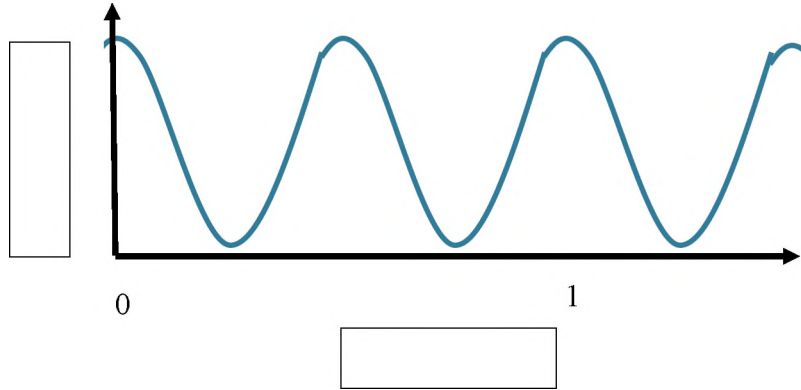
Frequency is how many cycles per second the sound wave oscillates (goes up and down). It perceptually correlates with (you hear it as) pitch. It is measured in hertz (Hz).

A cycle is measured from the top of one wave to the top of the next wave.



Look at the wave form.

- (1) Label the time and intensity.
- (2) Draw and label each cycle of the wave



How many cycles do you see? _____

What is the frequency (pitch) of this wave? (Hint: Cycles per second) _____

Define each of the three physical parameters of sound and how they are measured

Time

Definition _____

Unit of Measurement _____

Frequency

Definition _____

Unit of Measurement _____

We hear frequency as _____

Intensity is also called _____

Definition _____

Unit of Measurement _____

We hear intensity as _____

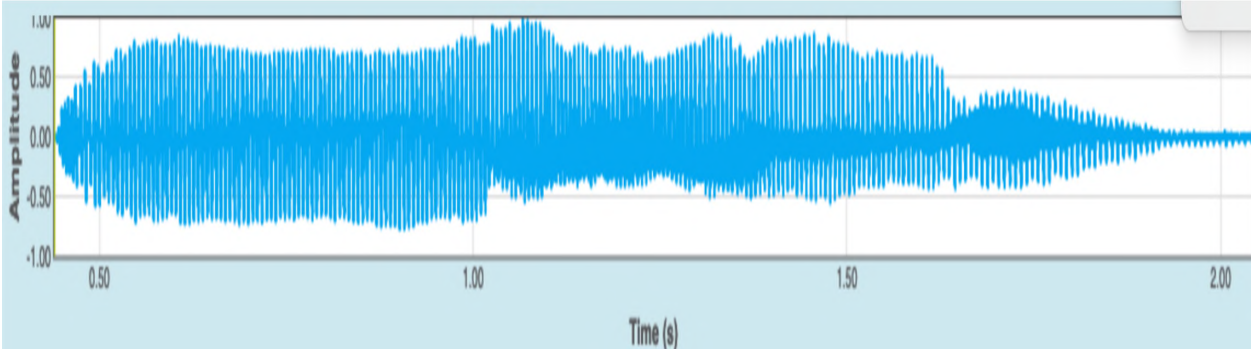
Physical parameters of sound.

Draw an arrow from each of the intensity levels below to the corresponding area on the wave shown below (Hint: there may be more than one arrow for each intensity level).

Loudest Points

Quieter

Very Quiet



Assignment 59: Spectrograms

A spectrogram is a visual representation of the speech signal across time.

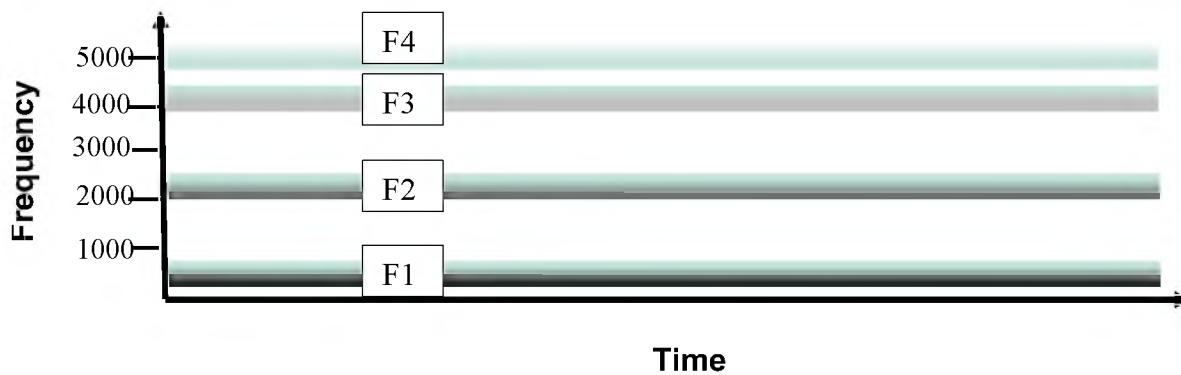
Time is represented by the horizontal (x) axis.

Frequency (Pitch) is represented by the vertical (y) axis.

Intensity is represented by the darkness of the bands.

Formants are the dark bands going across. Formants represent pitches which are louder (or more intense).

Formants are labeled from the bottom up: Formant 1 (F1), Formant 2 (F2), Formant 3 (F3), and Formant 4 (F4)



Look at the spectrogram above. At about what frequency (pitch) is each formant?

F1 _____

F2 _____

F3 _____

F4 _____

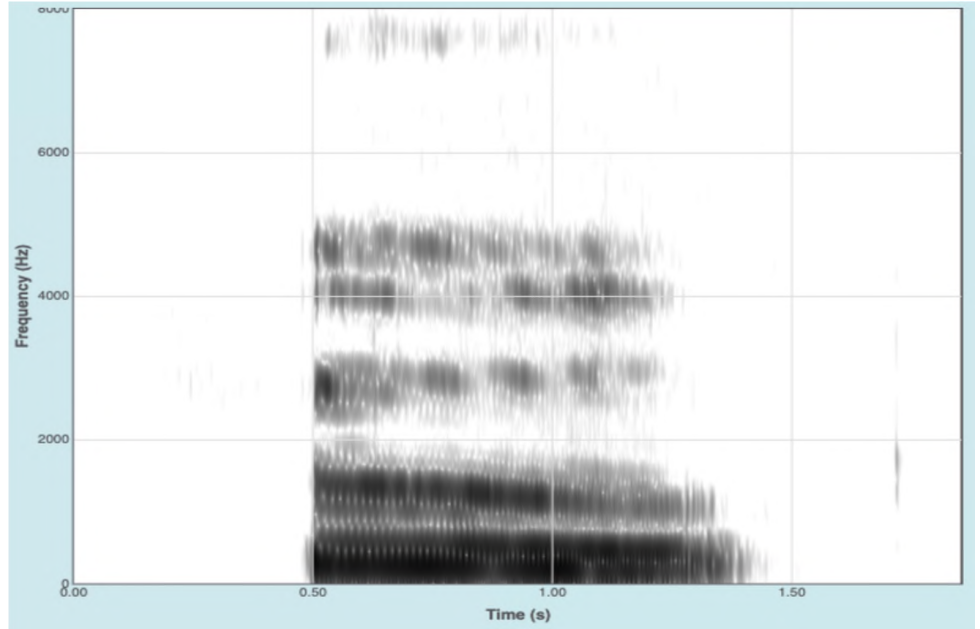
Circle where each of the following are shown.

(1) Time

(2) Frequency

Draw a horizontal line across each of the formants.

Label each formant.

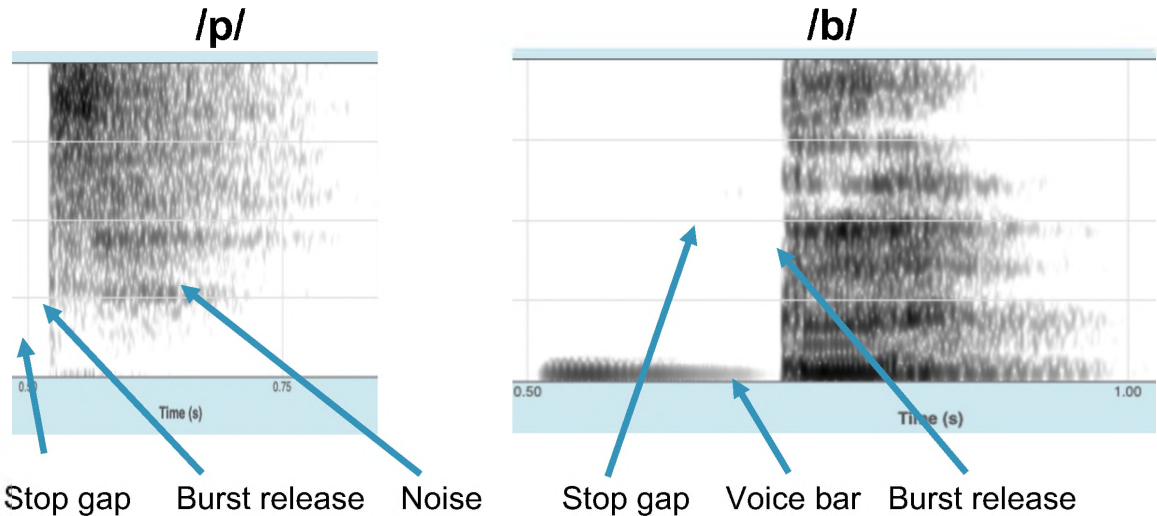


How is intensity represented on the spectrogram?

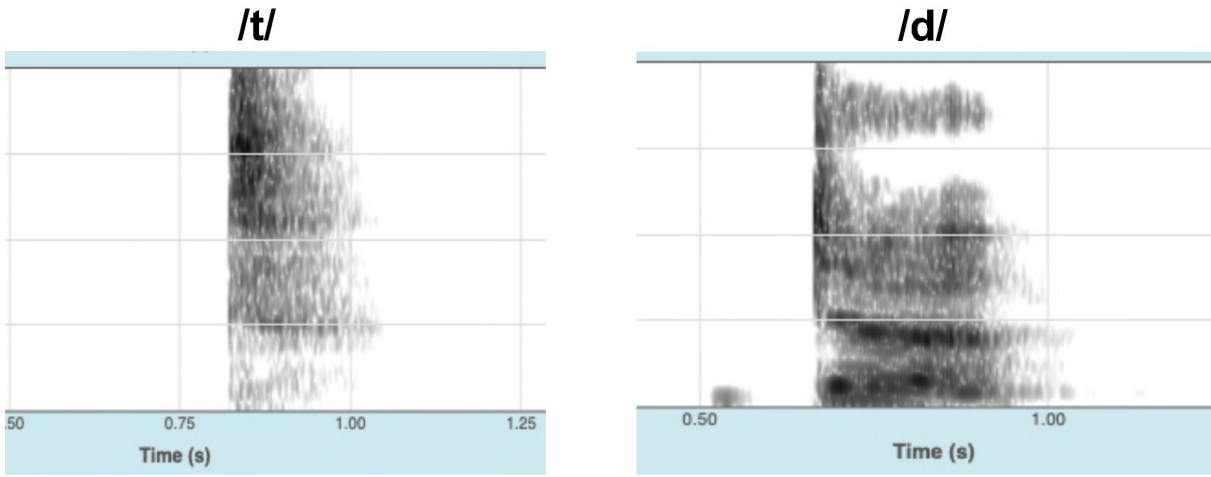
Which pitches are loudest in this speech signal?

Assignment 60: Recognizing Consonants on the Spectrogram— Stops

Look at the spectrograms below. Notice how the sound stops before the sound bursts open in both of the consonants. The /p/ is unvoiced, and therefore has noise following the burst release. However, the /b/ is voiced, so it has a voice bar before the burst release.

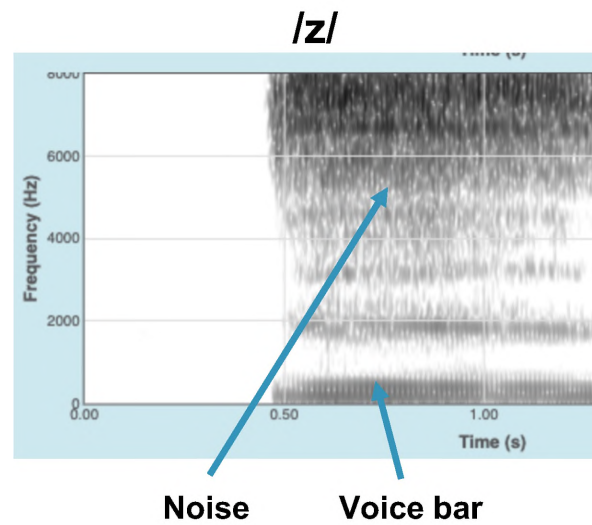
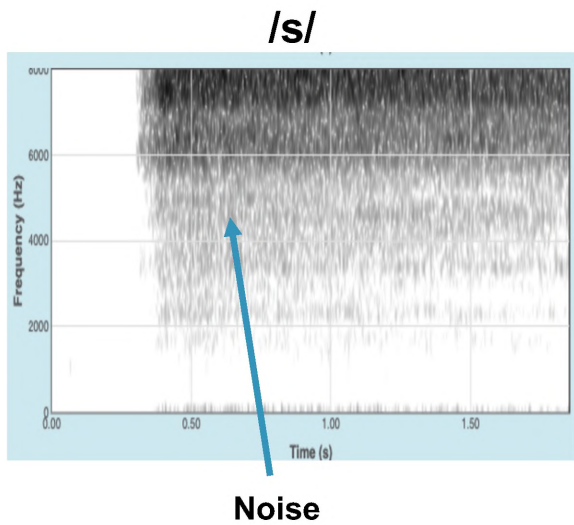


Label the stop gap, burst release, voice bar, noise (aspiration) following the burst for voiceless for the following sounds.

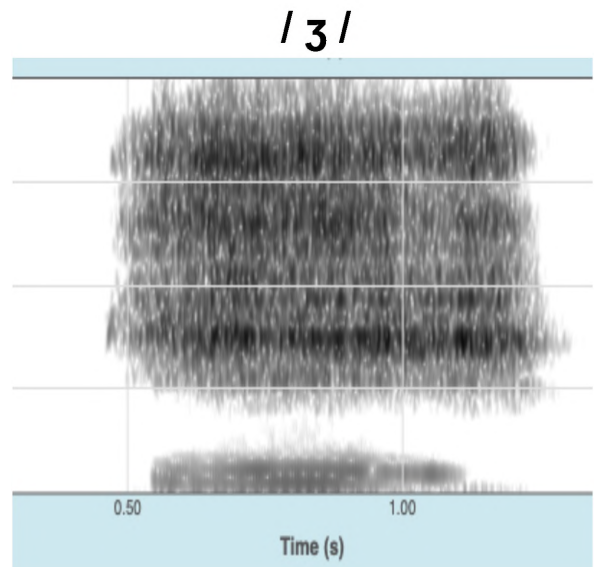
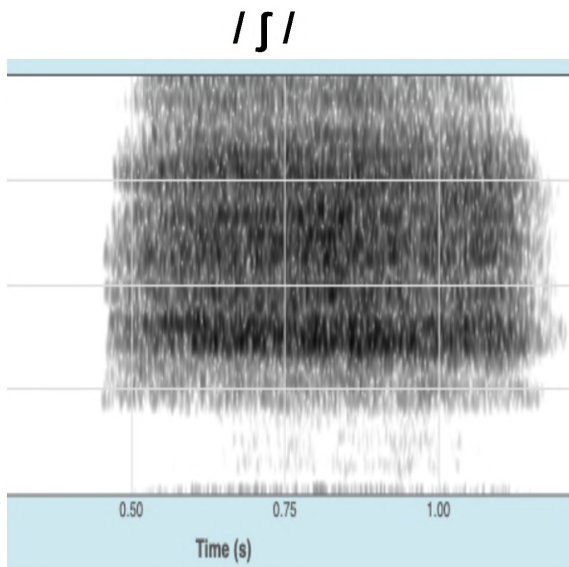


Assignment 61: Recognizing Consonants on the Spectrogram—Fricatives

Look at the spectrograms below. Notice the noise (disorganization) of the signal in both spectrogram, and the voice bar at the bottom of the voiced sound, /z/.

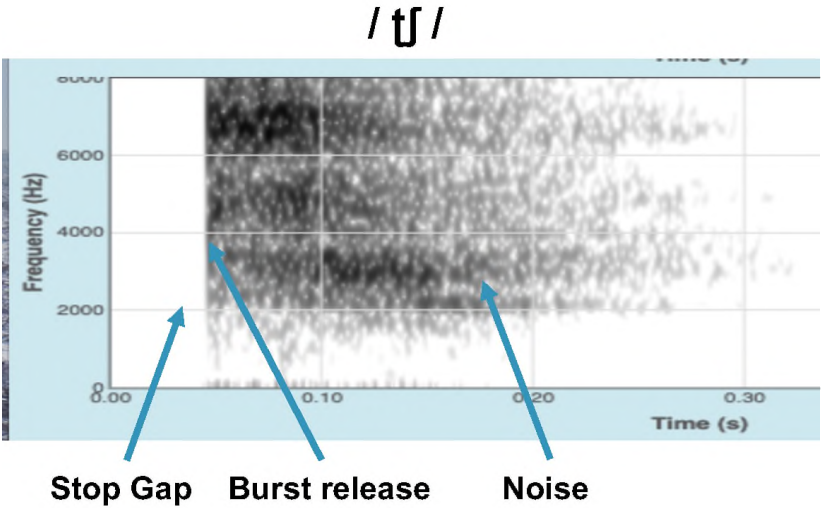


Label the noise and voice bar (for voiced), for the following spectrograms.

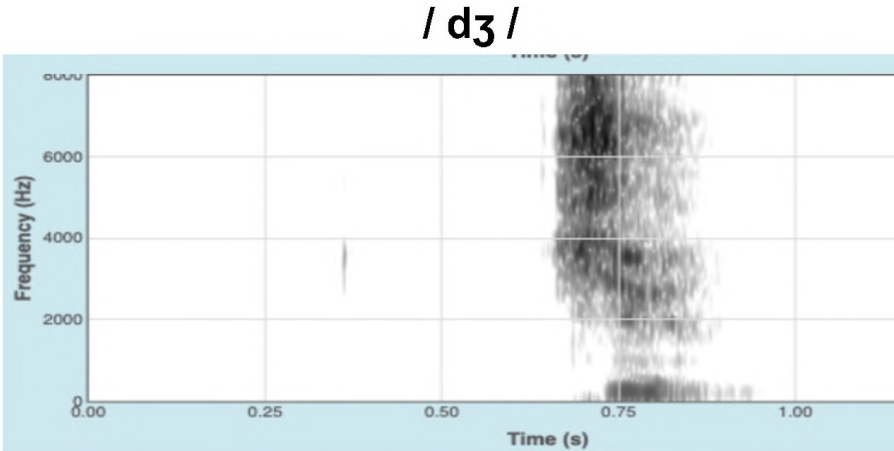


Assignment 62: Recognizing Consonants on the Spectrogram—Affricates

Look at the spectrogram below. Notice the burst release, followed by noise, and during that noise there is no voicing.

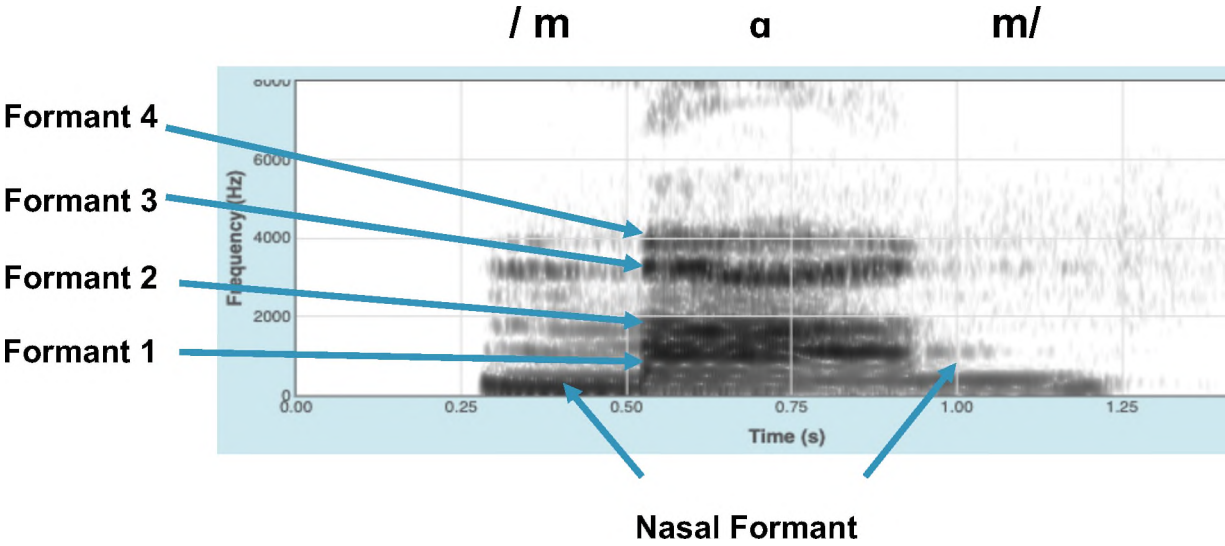


Label the stop gap, burst release, noise (aspiration), and the voice bar for the following spectrogram.

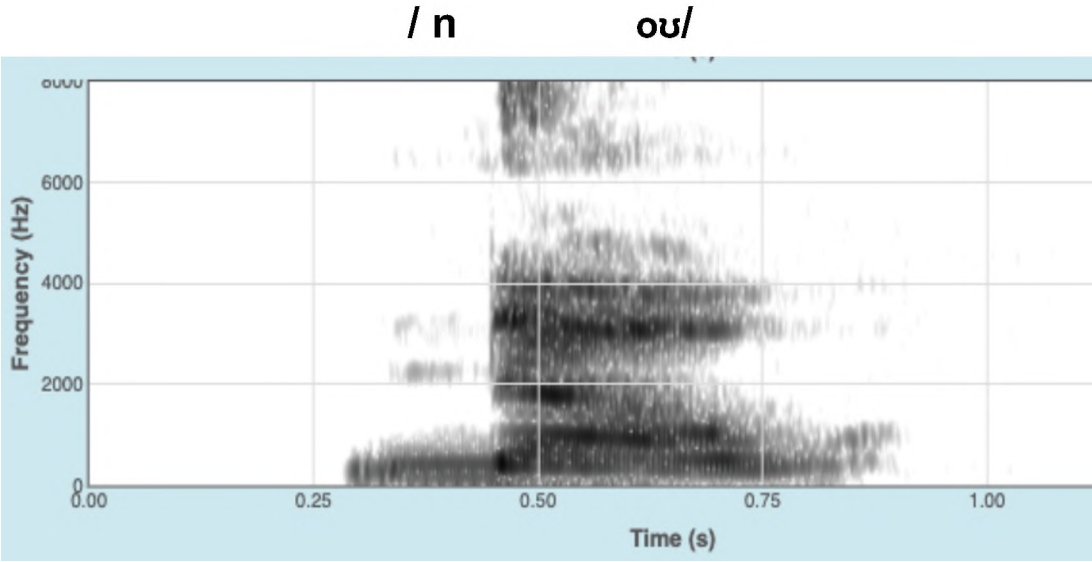


Assignment 63: Recognizing Consonants on the Spectrogram—Nasals

Look at the spectrograms below. Notice the thick dark line at the bottom of the chart for the /m/ sound. This is a nasal formant. A nasal formant is usually found below the bottom horizontal line (Formant 1) of the vowel beside it.



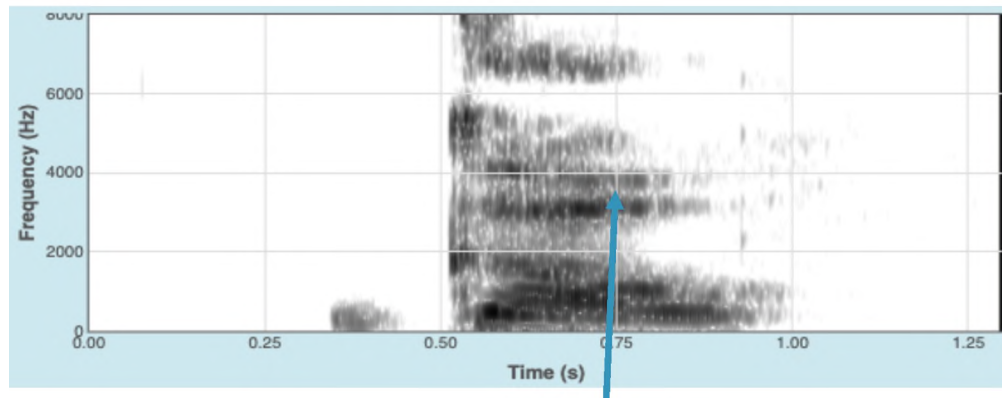
Label the nasal formant, and the formants in the vowel.



Assignment 64: Recognizing Consonants on the Spectrogram—Velars

Look at the spectrograms below. Notice how the sound stops before the sound bursts open. However, during that stop gap, there is voicing. Also notice that between Formant 2 and Formant 3 there is a velar pinch.

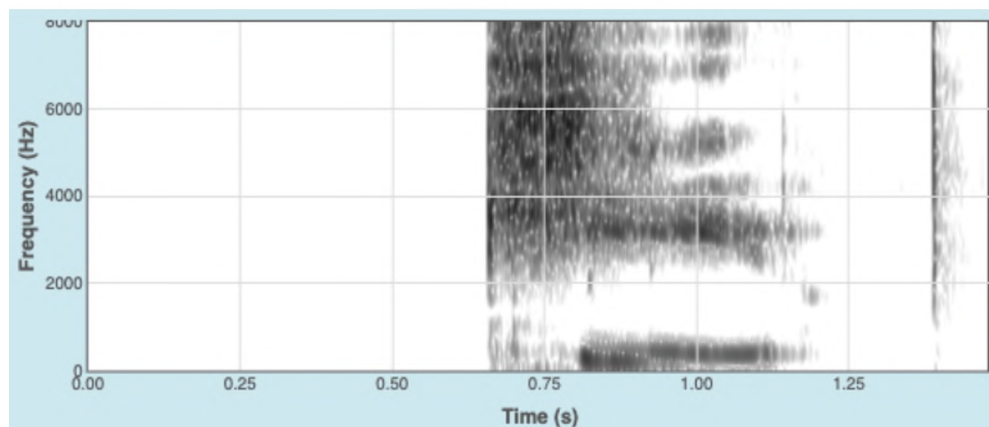
/ g ou/



Velar Pinch

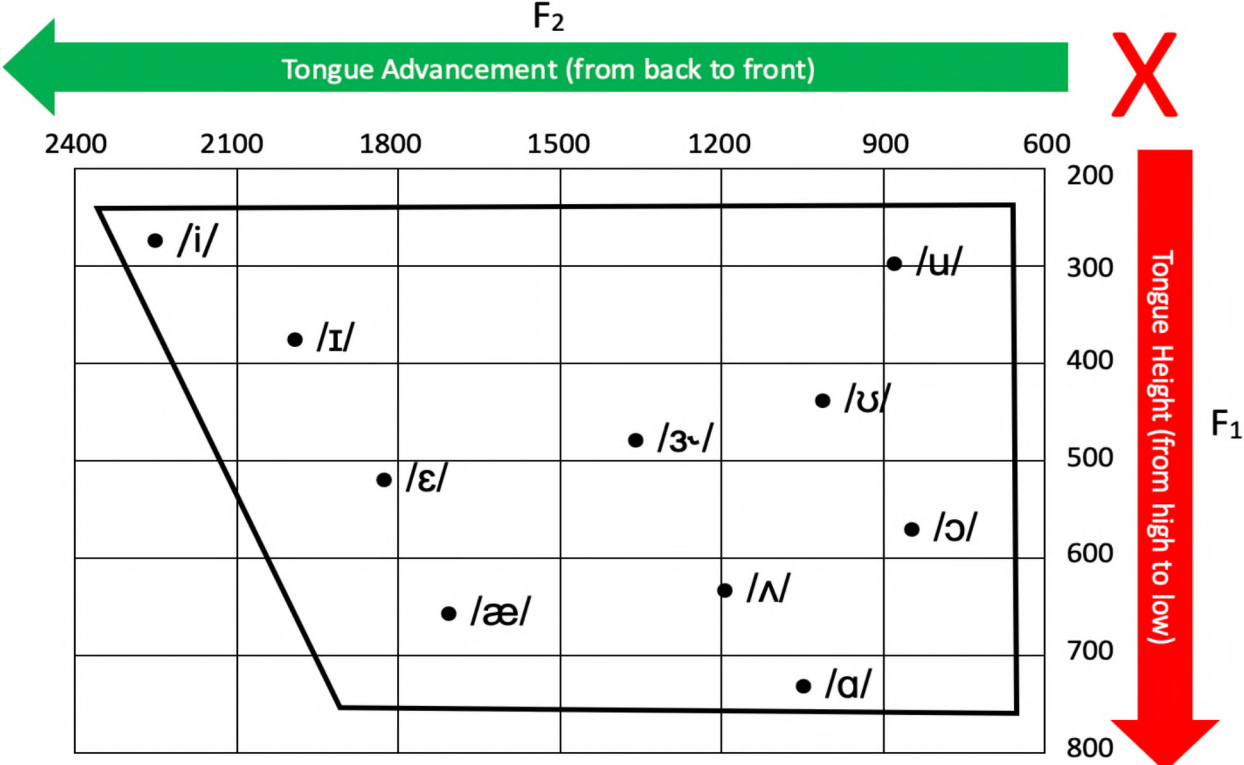
Label the velar pinch in the following spectrogram.

/ k i/



Assignment 65: Recognizing Vowels on the Spectrogram

Look at the vowel chart below. Notice how as tongue advancement increases on the vowel chart, Formant 2 also increases. Also, as tongue height in the mouth increases, Formant 1 (fundamental frequency) also increases.



*This chart is used under fair use and is not subject to the terms of this work's Creative Commons license. Copyright 2017 by Bay, Bodily, & Ventura.

Circle which vowel has a higher F1?

1. /i/ or /u/
2. /ɪ/ or /ɑ/
3. /ʊ/ or /ʌ/

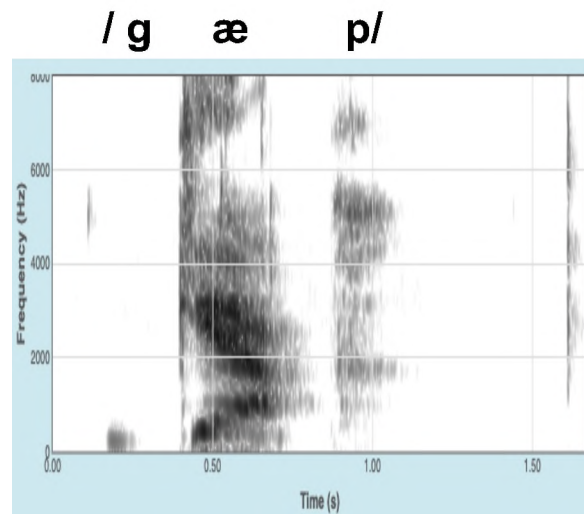
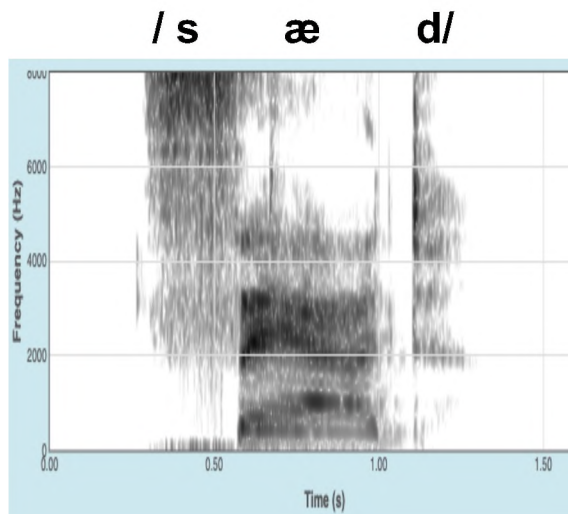
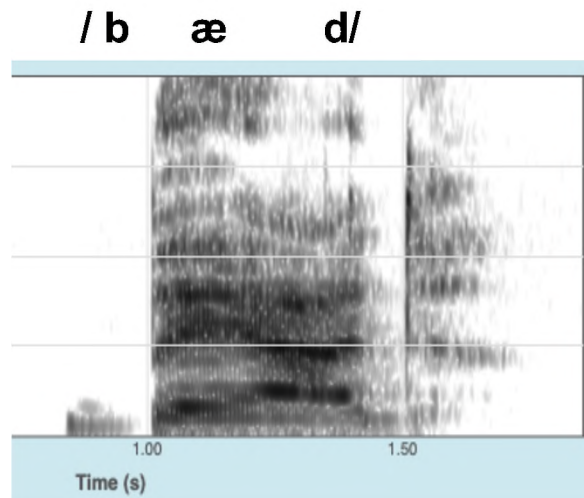
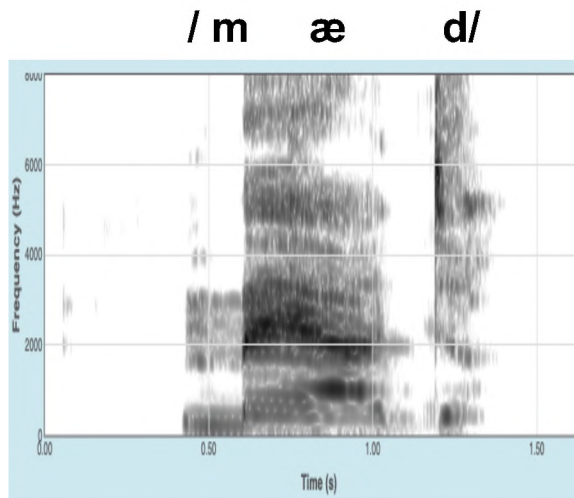
Circle which vowel has a higher F2?

1. /ɛ/ or /ʊ/
2. /ɜ-/ or /ɔ/
3. /æ/ or /i/

Assignment 66: Acoustics Summary

Label each of the following (where present) on each spectrogram:

- (1) Stop gap
- (2) Voice bar
- (3) Nasal formant
- (4) Velar pinch
- (5) Noise (Frication)
- (6) Noise (Aspiration following a burst)



Chapter 5: Connected Speech

Assignment #	Page #'s	Topic
67	102	Syllabic Consonants // /n/
68	103	Tap Flap /r/
69	104	Glottal Stop
70	104	Glottal Stop + Syllabic /n/
71	105	Palatalization
72	106	Prolongation
73	107	Epenthesis
74	108-109	Reading/Writing Phrases in Connected Speech

Assignment 67: Connected Speech— Syllabic Consonants

The way we transcribe single words is not often how we produce the word in continuous conversation. Whole words may become unstressed, vowels may be reduced or dropped, and consonants may be changed or dropped, this is called **connected speech**.

We transcribe **connected speech** differently than we transcribe single words, a consonant becomes a **syllabic consonant** when a *stop* (/d/) is followed by a vowel and a homorganic nasal (/n/ or /l/).

The tongue makes contact for a stop and stays there to form the nasal of the next unstressed syllable. The nasal becomes “syllabic” (e.g., /n/ and /d/), this means the syllabic consonant replaces the vowel and consonant combination (e.g., golden to [ˈgɒʊldŋ]).

Transcribe

1. wooden _____	2. broaden _____
3. noodle _____	4. handle _____
5. riddle _____	6. puddle _____
7. widen _____	8. warden _____
9. burden _____	10. ridden _____
11. cradle _____	12. fiddle _____
13. hidden _____	14. louden _____
15. bolden _____	16. paddle _____
17. poodle _____	18. forbidden _____

Assignment 68: Tap Flap /r/

A **Tap Flap** is a tap of the tongue tip against the alveolar ridge. The tongue quickly taps and then lowers for the vowel. Intervocalic /t/ and /d/ may be articulated as a **Tap Flap** when they occur **between two vowels**, the **second** of which is **unstressed** (e.g., winter to ['wɪnrə] and consider to [kən'sɪrə]).

Read the transcription

1. ['bærə] _____	2. [kən'sɪrə] _____
3. ['kælrənə] _____	4. [hɪrə] _____
5. [ʒaɪrə] _____	6. [leɪrə] _____
7. [faɪrə] _____	8. [dɛfɛnrə] _____
9. ['nuzlɛrə] _____	10. [ɛkspɛnrə] _____
11. ['ɪnsaɪrə] _____	12. [kɛmpjʊrə] _____

Transcribe

1. diameter _____	2. writer _____
3. divider _____	4. builder _____
5. quarter _____	6. weirder _____
7. chapter _____	8. invader _____
9. starter _____	10. glitter _____
11. better _____	12. leader _____

Assignment 69: Glottal Stop Intervocalic /t/

A **Glottal Stop** is made by pressing the vocal cords together.

It may occur as allophone of /t/ in the intervocalic position when going from a stressed to an unstressed syllable (e.g., butter to ['bʌʔə]).

Transcribe the words below, notice they all have a intervocalic /t/.

1. pity _____	2. better _____
3. footie _____	4. tater _____
5. tutor _____	6. petty _____

Assignment 70: Connected Speech— Glottal Stop Intervocalic /t/ + /n/

A **Glottal Stop** may also occur as an intervocalic /t/ before syllabic consonants (/t/ + /n/). Release for /t/ occurs at the level of the vocal folds, the tongue tip stays at the alveolar ridge for /t/ and /n/ (e.g., kitten to ['kɪʔn]).

Transcribe the words below, notice they all have a intervocalic /t/ + /n/.

1. Dayton _____	2. button _____
3. eaten _____	4. sweatin' _____
5. quittin' _____	6. written _____

Assignment 71: Palatalization

Palatalization occurs when alveolar consonants (/t/, /d/, /s/, and /z/) in word-final position come into contact with initial /j/, causing the sequence to become /tʃ/, /dʒ/, /ʃ/, and /ʒ/. (e.g., “won’t you” to [ˈwɒntʃu] or [ˈwɒntʃə]).

Read the transcription

- | | |
|-------------------|-------------------|
| 1. [kæntʃə] _____ | 2. [bleɪjʊ] _____ |
| 3. [nɒtʃɪt] _____ | 4. [sɛtʃə] _____ |
| 5. [bɛtʃə] _____ | 6. [kɛtʃə] _____ |

Transcribe

- | | |
|---------------------|--------------------|
| 1. meet you _____ | 2. did you _____ |
| 3. unless you _____ | 4. as you _____ |
| 5. count your _____ | 6. does your _____ |

Assignment 72: Prolongation

Prolongation occurs when a consonant ends one word and begins another (e.g., some men to [sʌmən]).

Read the transcription

1. [kaʊntu] _____	2. [smelɑɪk] _____
3. [kætɔɪ] _____	4. [tɔsæɪɪd] _____
5. [tɔləmp] _____	6. [stɑplɪz] _____
7. [stɑpleɪɪŋg] _____	8. [dʌbəlɪp] _____
9. [ɪɪdɪ] _____	10. [teɪplɪz] _____
11. [paɪnɪdʊl] _____	12. [tɛstʊb] _____

Transcribe

1. has seen _____	2. star rating _____
3. big green _____	4. shed door _____
5. short tower _____	6. tall ladder _____
7. top point _____	8. wind down _____
9. hundred dozen _____	10. travel later _____
11. wood dock _____	12. space star _____

Assignment 73: Epenthesis

Epenthesis is the insertion of an extra sound (e.g., hamster transcribed as [hæmpstə]).

Read the transcription

1. [wɔɹmpθ] _____

2. [smaɪjʊl] _____

3. [bæɪk] _____

4. [bəlʊ] _____

5. [gəʊ] _____

6. [sənoʊ] _____

7. [pəleɪ] _____

8. [æθəlɪt] _____

Assignment 74: Reading and Writing Phrases in Connected Speech

Read the transcription

1. [lʊkætʃjə-wat]

2. [ʃizgʌnəməɪdʒə-ɪnspɪtʃnhɪɪŋg]

3. [wʊrəjuwənəduənðɹwɪkɛnd]

4. [dɪdʒjəpɪkəpðɹfʊd]

5. [hʊwɪlbiðeɪ]

6. [aɪwɛnənətʃɪrwiθmaɪfjɛnkeɪt]

7. [ðɹmɪrɪŋɪzənɹtuzdeɪ]

8. [dʊjuənəwʊtʃjə-duɪŋgnekstwɪk]

Transcribe

1. Did he give a lot of homework?

2. Could you help me out with that tonight?

3. Would you like to see a movie later?

4. Are you coming tomorrow?

5. She goes to bed at six o'clock.

6. I always tell him to go away.

7. I bet you ten bucks.

8. Does he play any instruments?

Chapter 6: Speech Sound Disorders

Assignment #	Page #'s	Topic
75	111-112	Introduction to Speech Sound Disorders
76	113-115	Articulation Disorder— Residual Articulation Disorders
77	116-119	Phonological Disorders
78	120-125	Identifying Articulation vs. Phonological Disorders

Assignment 75: Introduction to Speech Sound Disorders

Speech sound disorders involve difficulty with:

- perceiving (hearing and recognizing),
- phonologically (mentally) representing sounds,
- and/or articulating (moving the articulators to produce the sounds).

(International Expert Panel on Multilingual Children's Speech, 2012)

There are five types of speech sound disorders in children:

- (1) Articulation impairment
- (2) Phonological impairment
- (3) Apraxia of Speech
- (4) Dysarthria
- (5) Inconsistent Speech Disorder

In this class, we will be learning, briefly about the first two of these:

- (1) Residual Articulation Disorders
- (2) Phonological Disorders

Articulation Impairments (Residual Articulation Disorders) are difficulty with the production of only one or two sounds, usually / ɹ / or / s /. These difficulties usually involve the *substitution, omission, or distortion* of a sound.

Substitutions are when the target sound is replaced with another sound.

Omissions are when the target sound is omitted from the word.

Distortions are when the sound is produced in a way that makes the sound less clear or intelligible (distorts the sound)

Phonological Impairments are patterns of speech sound disorders, some examples are:

Whole word or syllable level processes such as weak syllable deletion, initial or final consonant deletion, reduplication, or cluster reduction.

Substitution processes such as fronting, backing, stopping, or gliding.

Answer the following questions regarding Speech Sound Disorders:

1) Speech sound disorders involve difficulty with:

- _____
- _____
- _____

2) Articulation Impairment (Residual Articulation Disorders) usually involves difficulty with ONLY which sounds:

- _____
- _____

3) List and describe each of the three types of articulation errors:

- _____

- _____

- _____

4) List 3 different phonological processes seen in children with phonological impairment

- _____
- _____
- _____

Assignment 76: Articulation Disorders— Residual Articulation Disorders

Articulation disorder of the sound /ɹ/ usually involves:

- **omission** of the sound (dropping the sound from the word)

/ɹ/ → ∅

- **substitution** of the sound with /w/, /j/, or /o/

/ɹ/ → /w/

/ɹ/ → /j/

/ɹ/ → /o/

/ɹ/ → /w/, /j/, or /o/

- **distortion** of the sound, producing the sound inaccurately

Articulation disorder of the sound /s/ usually involves the following *distortions or substitutions of the* of the sound, producing the sound inaccurately

- **lateralization** of the sound— distorting the sound by producing allowing the airstream to escape the lateral sides of the mouth, producing a slushy /s/ sound. Often when /s/ is lateralized, /z/ is also lateralized.

Lateralized /s/ is transcribed as /ɬ/.

Lateralized /z/ is transcribed as /ɮ/.

- **dentalization** of the sound— distorting the sound by producing the /s/ sound (sometimes /z/ or /ʃ/) immediately behind the teeth, rather than on the alveolar ridge

Dentalized /s/ is transcribed as /ɕ/.

Dentalized /z/ is transcribed as /ɟ/.

- **interdentalization** of the sound— distorting the /s/ sound by producing it between the teeth as /θ/. If /z/ is involved it is usually produced as /ð/. This can also be referred to as a substitution because the /s/ becomes /θ/.

Interdentalized /s/ becomes /θ/. (s → θ)

Interdentalized /z/ becomes /ð/. (z → ð)

Read each of the descriptions below. Identify the:

- (1) Articulation errors produced
- (2) Type of disorder (articulation or phonological). Hint: All of these are articulation disorders
- (3) How the disorder is characterized

Note all of these children have only one sound in error:

Either /ɹ/ or /s/ and its partners /z/ and /ʃ/.

Example

A child produces the word sun as /θʌn/ and the word zoo as /ðu/.

What articulation error(s) did the child produce? /s/ → θ, /z/ → ð

This child has a/an **articulation** disorder,
characterized by **interdentalization of /s/ and /z/.**

1) A child produces the word sit as /tɪt/ and the word zit as /zɪt/.

What articulation error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

2) A child produces the word rocky as /waki/ and the word rant as /ænt/.

What articulation error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

3) A child produces the word sunshine as /sʌnʃaɪn/.

What articulation error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

4) A child produces the words car race as /kɑo weɪs/

What articulation error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

5) A child produces the words ice cream sundae as /aɪθkɪm θʌndeɪ/.

What articulation error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

Assignment 77: Phonological Disorders

Phonological processes are patterns in the errors children make in speech sounds.

- Many phonological processes occur in typically developing children.
- At about 18 months, children have more words in their vocabulary than they have sounds for. Consequently, children develop systematic ways of altering the words so that they fit into the sounds they can produce.

Phonological delays occur when children still use these phonological patterns beyond the time when they are typically used

Phonological impairment occurs when children use phonological processes that do not occur in typically developing children

Phonological processes which occur at the word or syllable level include:

Weak syllable deletion— deleting the weakest (unstressed) syllable in a multi-syllabic word (e.g., telephone to /tɛfɒn/).

Initial consonant deletion— deleting the initial (first) consonant in a word (e.g., book to /ʊk/).

Final consonant deletion— deleting the final (last) consonant in a word (e.g., cat to /kæ/).

Reduplication— repeating the first syllable in a word (e.g., bottle to /baba/).

Cluster reduction— deleting one or more consonant in a consonant cluster (e.g., spider to /paɪdə/).

Phonological processes which occur at the phoneme level:

Fronting— velars or palatal sounds are replaced with alveolar sounds, more forward in the mouth (e.g., cat to /tæt/).

Backing— alveolar sounds are replaced with velar sounds (e.g., cat to /kæk/).

Stopping— fricatives and affricates are replaced with stops (e.g., son to /tʌn/).

Gliding— liquids become glides (e.g., roof to /wʊf/).

Read each of the descriptions below. Identify the:

- (1) Error(s) produced
 - (2) What type of speech sound disorder this represents
 - (3) How the speech sound disorder is characterized
-

1) A child produces the words car, gone, and dog as /tɑɪ/, /dɔŋ/, and /dɑd/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

2) A child produces the words rain, yellow, and light as /weɪn/, /jɛwɔʊ/, and /jaɪt/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

3) A child produces the words mother, bottle, and dad as /mama/, /baba/, and /dædæ/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

4) A child produces the words stop, clock, stamp as /tap/, /lak/, and /tæm/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

5) A child produces the words tan, dog, and cat as /kæn/, /gɔg/, and /kæk/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

6) A child produces the words sun, shine, and zoo as /tʌn/, /tain/, and /du/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

7) A child produces the words sun, shine, and zoo as /tʌn/, /tain/, and /du/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

Assignment 78: Identifying Articulation vs. Phonological Disorders

Read each of the descriptions below. Identify the:

- (1) Error(s) produced
- (2) What type of speech sound disorder this represents
- (3) How the speech sound disorder is characterized

1) A child produces the words car, rich, trade as /ka/, /witʃ/, and /tweɪd/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

2) A child produces the words tar, tree, bag as /ɑː/, /iː/, and /æɡ/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

3) A child produces the words cap, great, and good as /tæp/, /dʒeɪt/, and /dʊd/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

4) A child produces the words far, prove, as /faʊ/, /pwuv/, and /wɛd/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

5) A child produces the words red, below, and ladder as /wɛd/, /biwɔʊ/, and /jædə/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

6) A child produces the words ship, salt, seas as /θɪp/, /θɔlt/, and /θið/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

7) A child produces the words sought, shoe, and zoom as /tɔt/, /tu/, and /dum/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

8) A child produces the word snooze as /tʌnuʒ/ and the word zone as /ʒoʊn/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

9) A child produces the words banana and water as /nænə/ and /wɔwə/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

10) A child produces the words top, dog, and stood as /kɒp/, /gɔg/,
and /skʊg/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

11) A child produces the word snake, sore, and seashell as /sneɪk/,
/sɔɹ/, and /sɪʃəl/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,
characterized by _____.

12) A child produces the word seed and zany as /θid/ and /ðeɪni/.

What speech sound error(s) did the child produce?

This child has a/an _____ disorder,

characterized by _____.