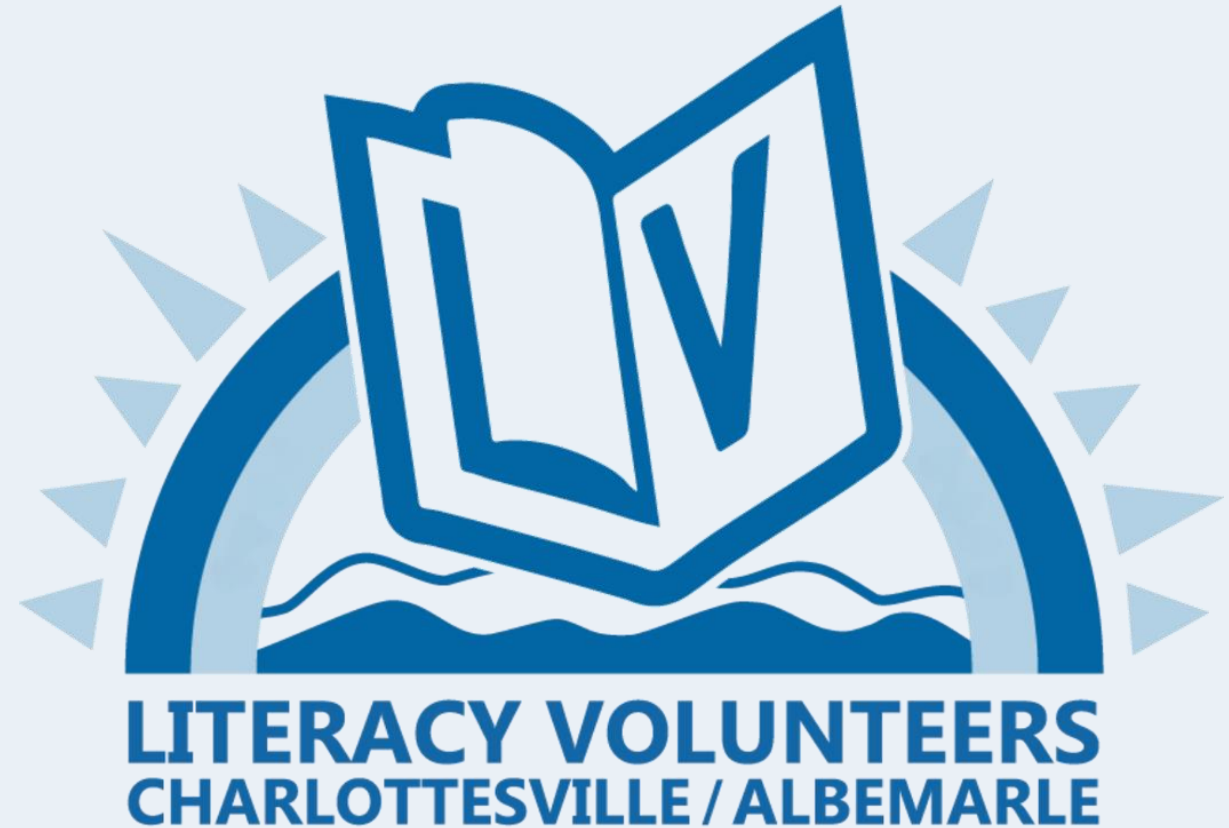


The Science of Reading

part 1

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October 17, 2024



Changing lives, one word at a time.

Before we get started....

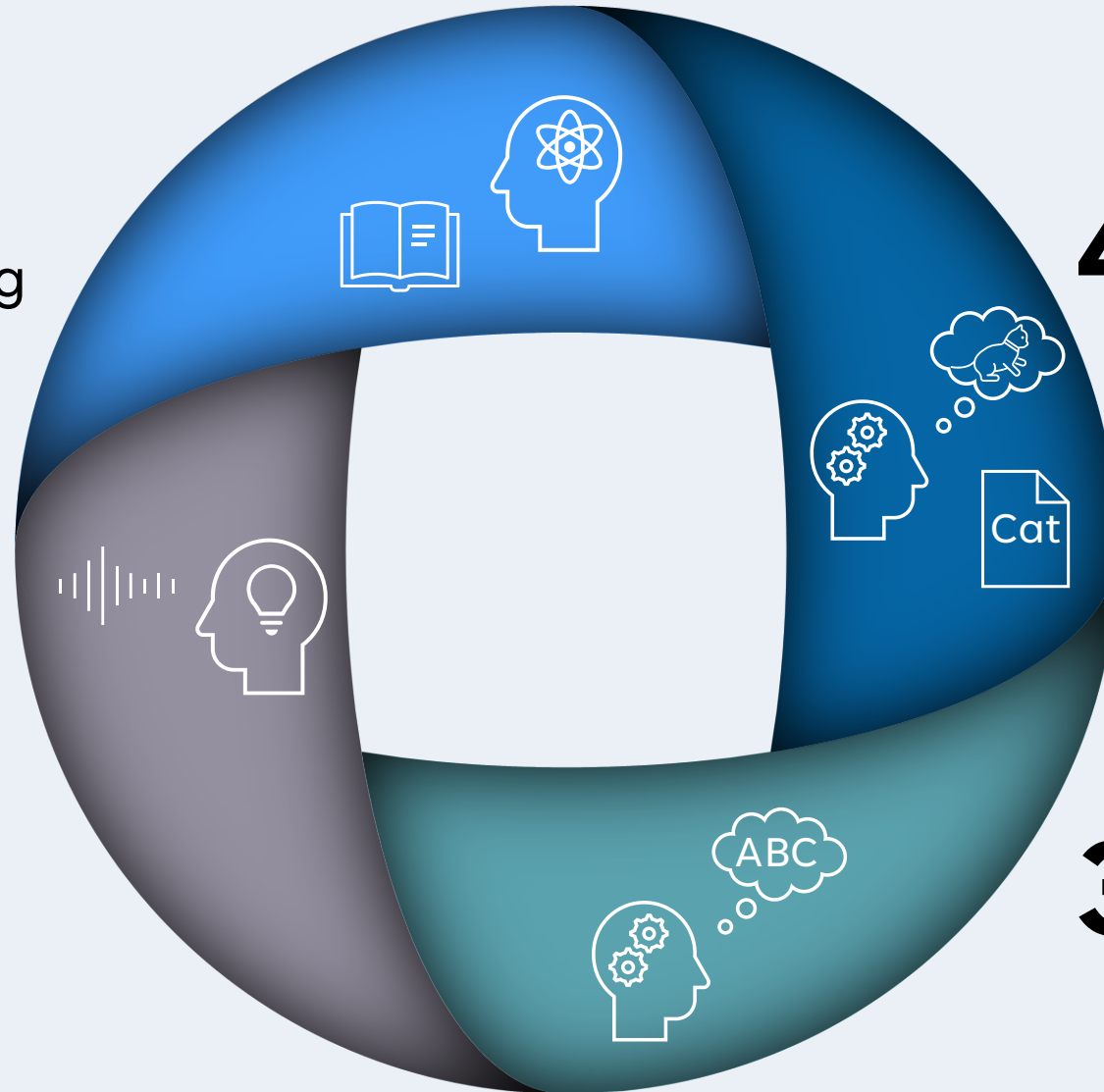


- How long did it take you to be able to read at a 4th grade level?
- How many days of direct instruction did you have per year during that times?
- How many hours of direct and indirect reading instruction were your receiving at that time?
- How many hours a week were you working during that time?

Agenda



1 Overview of The Science of Reading



4 Word Recognition

2 Phonemic Awareness

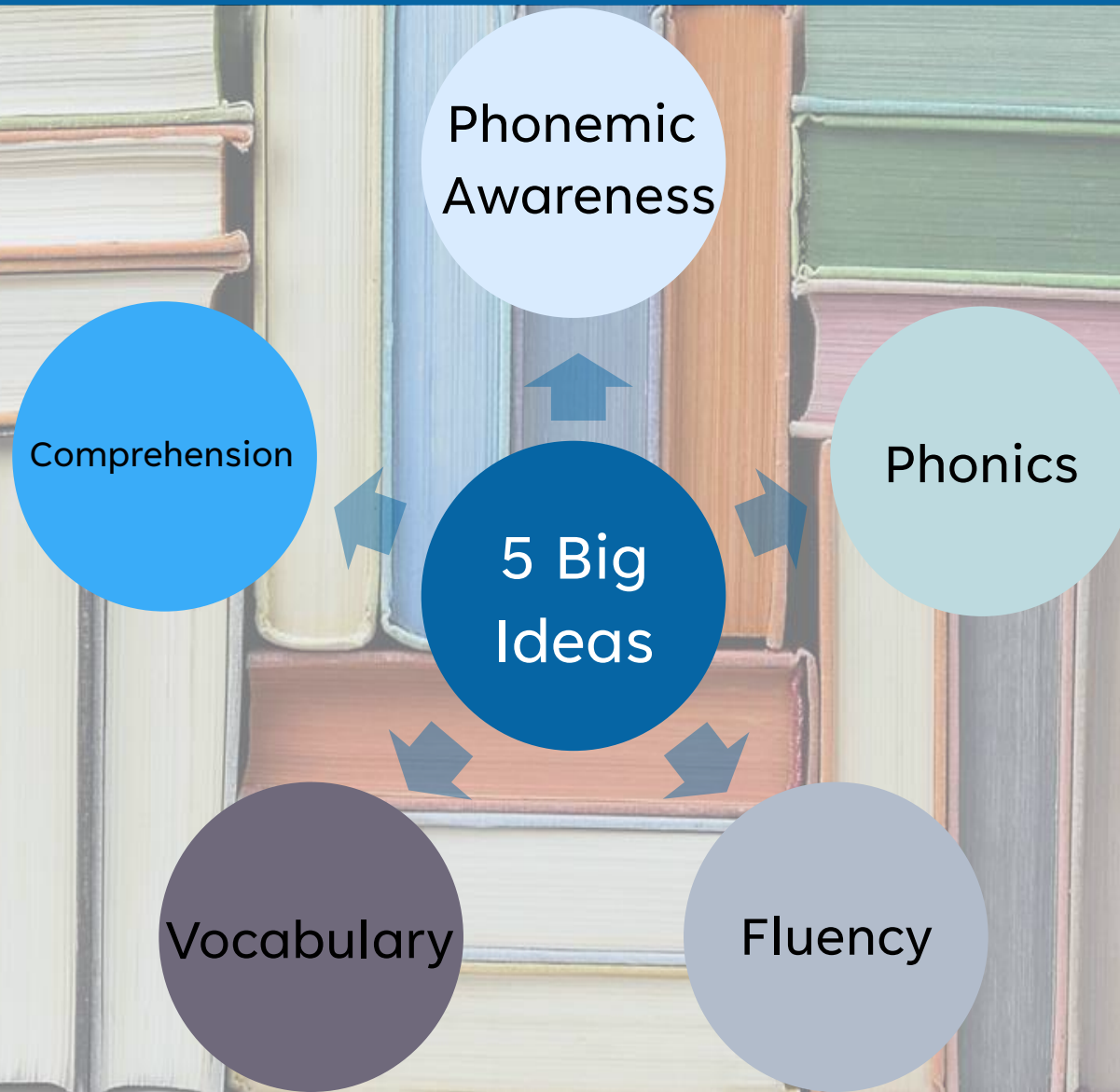
3 Phonics

Overview of The Science of Reading



- What is the Science of Reading?
 - A collection of Research in multiple fields of study determine the best theories behind how we learn to read

Teaching with the Science of Reading



Overview of The Science of Reading



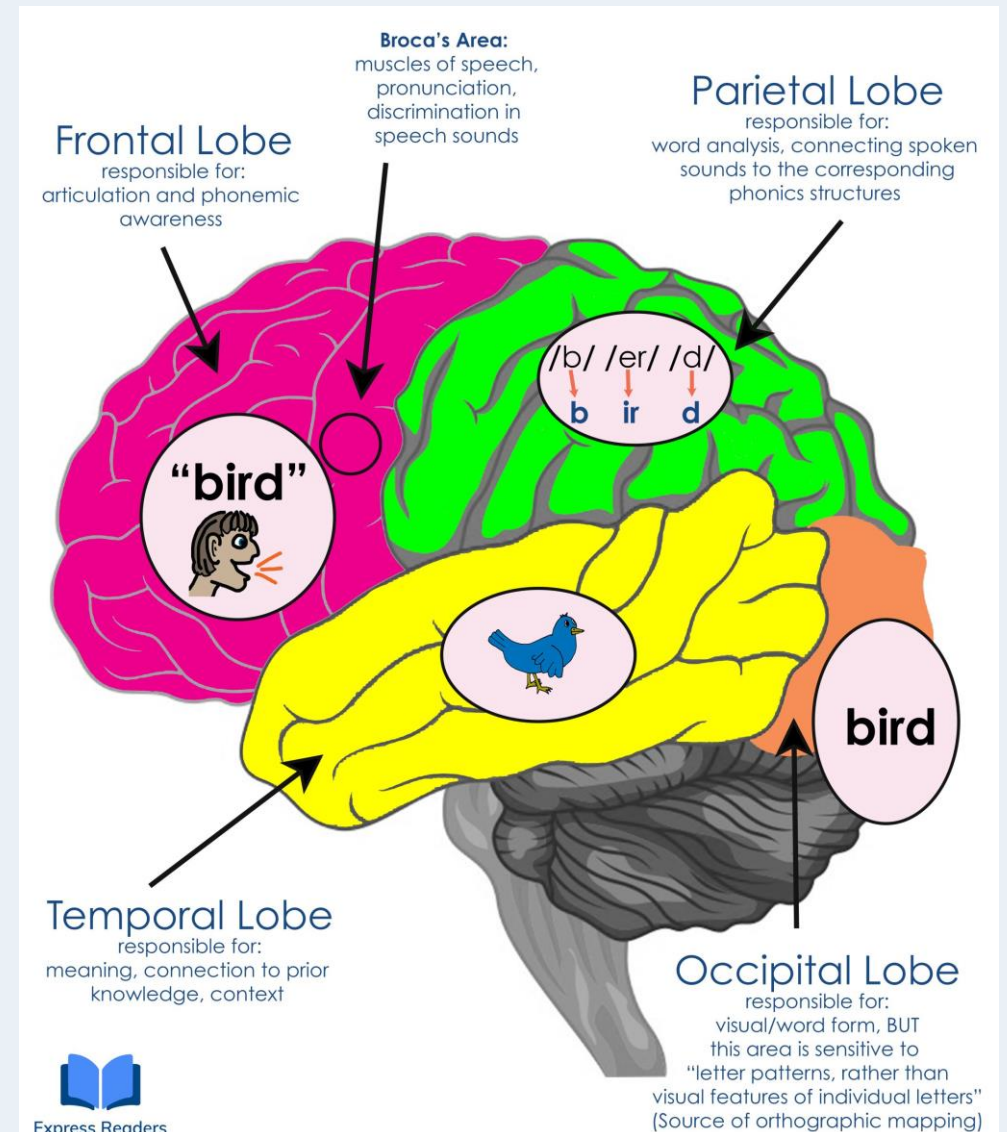
- What the Science of Reading is NOT
 - A product you can buy
 - A program based entirely on drilling phonics
 - A study that is that is complete and finished



Reading and the brain



- At least five areas of the brain are involved in reading
- All of these sections of the brain must communicate with each other from someone to read

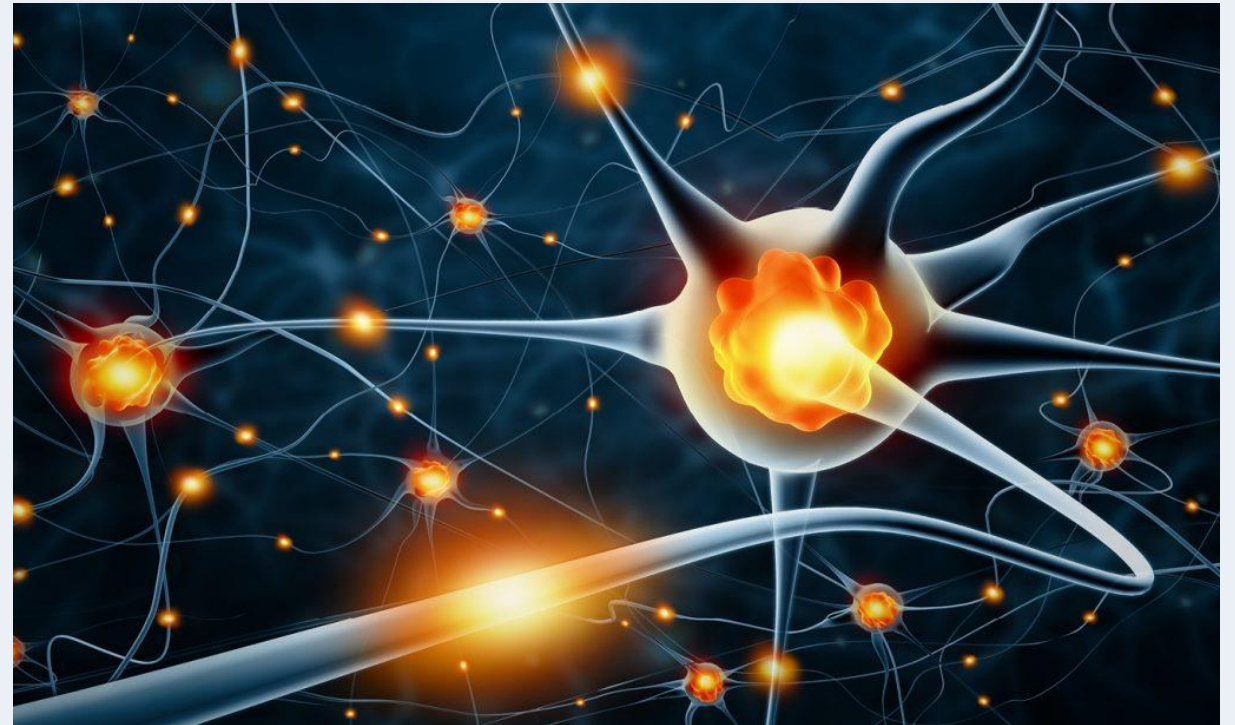


<https://expressreaders.org/blog/brain-bulletin-1-simplifying-the-brain/>

Reading and the brain



- The pathways connecting the different parts of the brain do not exist in the pre-literate brain.
- Those pathways must be built
- Literate people usually built those pathways as children
- New pathways take more time for adults to create



<https://www.readingrockets.org/resources/resource-library/science-reading-defining-guide>

Phonemic Awareness

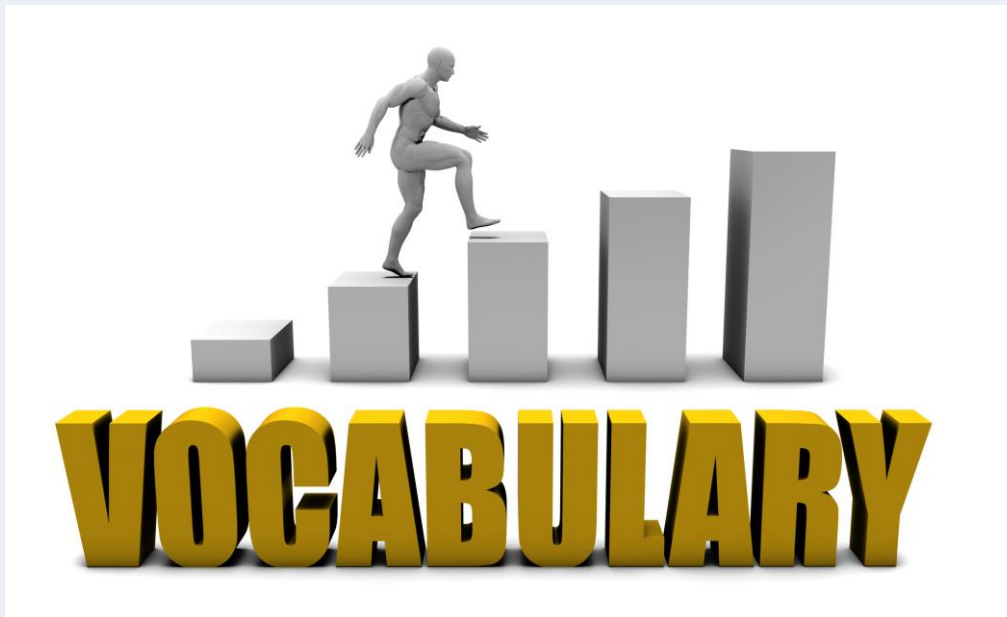


- Understanding that words are made up of individual sounds (phonemes)
- *Cat* has 3 phonemes /k/ /æ/ /t/
- *Catch* has 3 phonemes /k/ /æ/ /tʃ/
- **Phonemic Awareness is NOT phonics. This has nothing to do with letters (at this point)**

Phonemic Awareness



- Vocabulary must come first
- Start with words they know, particularly short words
- Students are manipulating sounds they already know
- Break apart new vocabulary into sounds as you teach it



BONUS FEATURE: this improves pronunciation on new vocabulary!



Identifying phonemes

- Don't start with A and go to Z
- Start with a small set of sounds they likely already know
 - /m/
 - /k/
 - /p/
 - /n/
 - /t/



Identifying phonemes



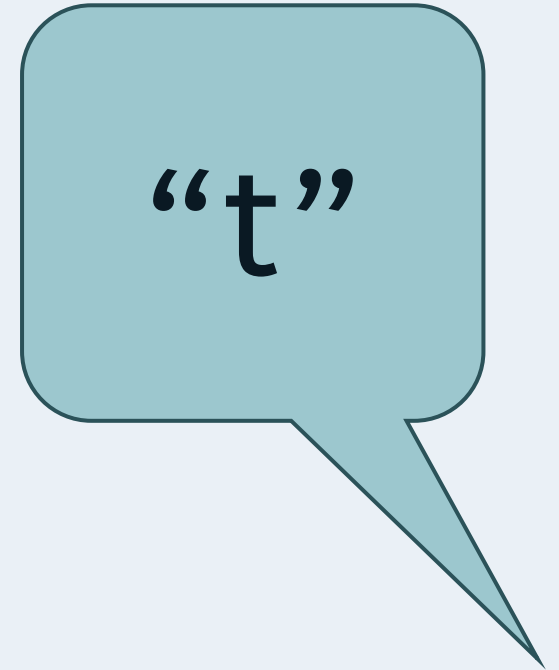
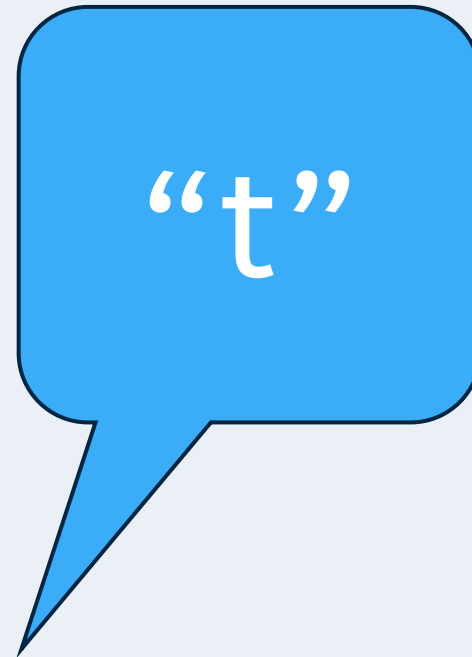
Separate sounds that
can get confusing
(/b/ and /v/, /v/ and
/w/, /r/ and /l/)

Master single letter/
sounds before moving
onto digraphs and
blends

Identifying phonemes



- Teach the sounds explicitly
- Focus on only one or two per lesson



Identifying phonemes



- Get the students comfortable with the “mouth feel” of creating the sound
 - Use simple tongue twisters
 - Mary makes a mess on Mondays.
 - Kate kept Ken’s kitten.
 - Paul pulled the pink puppy.
 - Nate was not nice to Nick’s neighbor.
 - Tom took too many tomatoes.



Mary makes a mess on Monday.



Paul pulls the pink puppy.



Tom took too many tomatoes.

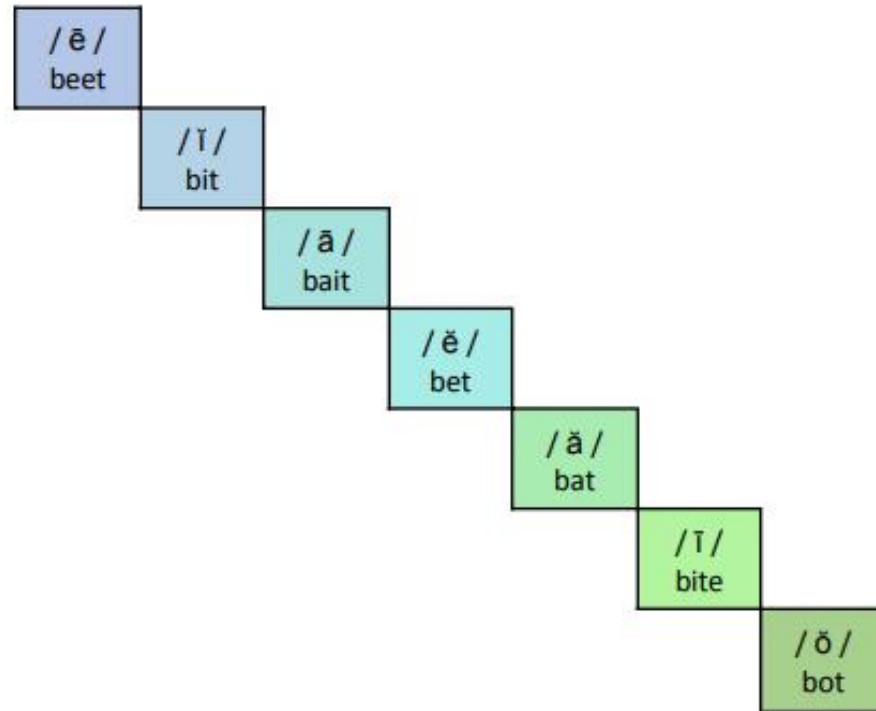
AI generated images using Gencraft.

Identifying vowel phonemes



- There are 19 (or 20*) vowel phonemes in English

Place your hand under your chin as you make each vowel sound:



07/2021

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*Depends on who you ask. Linguists are an argumentative lot.

Phonemic Awareness



- Instruction must have meaning
- With adult native English speakers, nonsense words can be useful for teaching Phonemic Awareness
- With ELLs it's confusing and a waste of time

gog

stog

chog

wog

Activities for Phonemic Awareness



- Word games
 - C-V-C words are great! (particularly ones that follow the “rules”)
 - Tongue twisters (very basic ones)
 - Rhymes (poems and songs)
-
- Rhymes exist in all languages. Have students share some of their favorites from their own language.



Matching



Same initial sound

Same middle sound

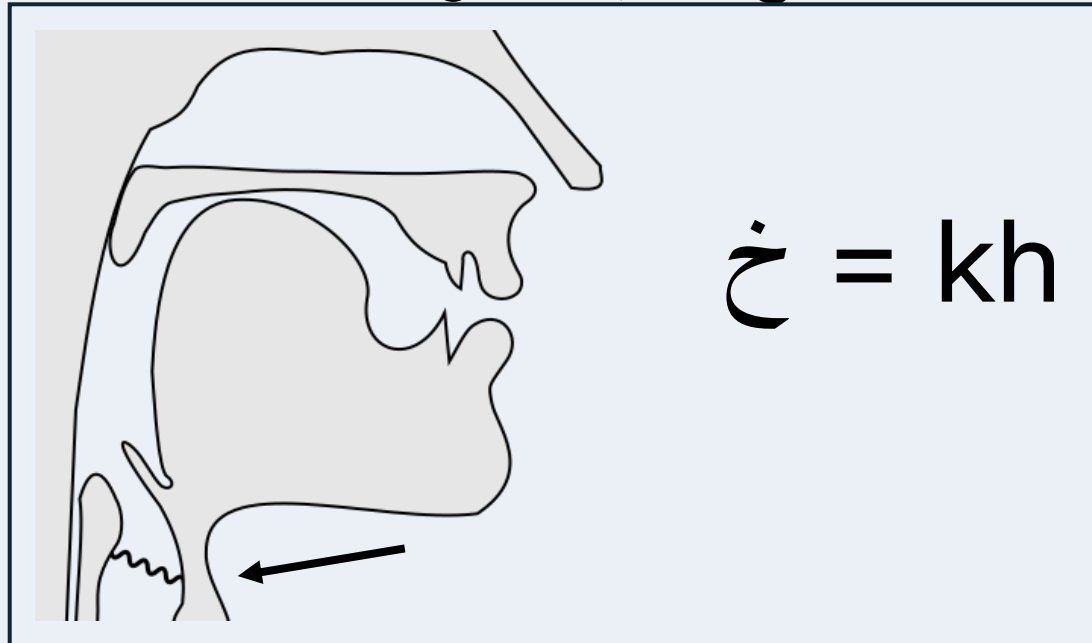
Same final sound





Potential traps

- There are likely to be sounds in English that don't exist in the learner's first language (looking at you "th" -- both θ & δ)
- There will possibly be sounds in their language that we don't have in English (the $\dot{\chi}$ sound in Dari/Farsi, etc)



Phonics



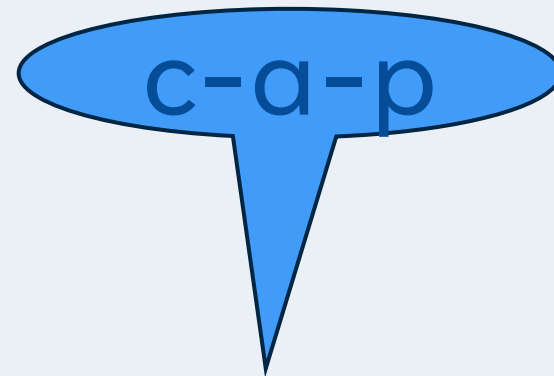
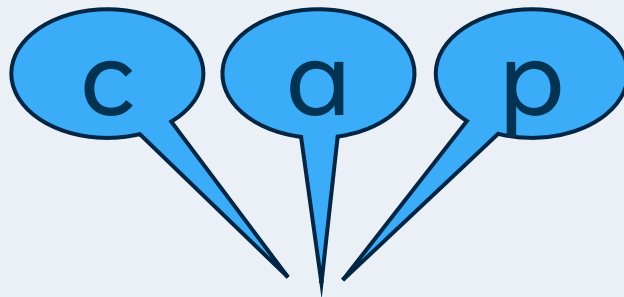
Phonics instruction teaches the idea that letters, and groups of letters, match individual sounds in printed words. The ability to apply these predictable relationships to familiar and unfamiliar words is crucial to reading success.

--The National Center on Improving Literacy

Where to start



- Blending sounds
 - Starting left to right, link the sounds of each letter together
 - Repeat that, speeding it up until the word is said at a fluent speed
 - As the student gets more comfortable with this, they can do it internally without voicing the sounds



Continuous and Stop Sounds



Continuous sounds
can be held without
distorting them

Stop sounds
are made by
quick puffs of
air and cannot
be held

Continuous sounds vs Stop sounds



- F
- L
- M
- N
- R
- S
- V
- W
- Y
- Z
- All the vowels

- B
- C
- D
- G
- H
- J
- K
- P
- T

Continuous sounds vs Stop sounds



- Continuous sounds can be held without distorting them

- F
- L
- M
- N
- R
- S
- V
- W
- Y
- Z
- All the vowels

- Stop sounds are made by quick puffs of air and cannot be held without distortion

- B
- C
- D
- G
- H
- J
- K
- P
- T

CVC with all continuous sounds



- Man
- Run
- Rim
- Win

CVC with stop sound at the end



- Sap
- Mat
- Fit
- Lot

CVC with stop at the beginning



- Pan
- Can
- Cab
- Bed
- Ten
- Big

CCVC with the blend containing a stop



- Spat
- Scat
- Step
- Skip

Word Recognition



- Phonological Awareness
 - Syllables, phonemes, etc.
- Decoding
 - Alphabetic knowledge
 - Spelling-sound correspondence
- Sight Recognition
 - Familiar words

Phonological Awareness



- Knowing that words are made up of a sequence of sounds
- Understanding that written sentences are made up of words; words are made up of syllables; syllables are made up of letters and all of that correspond to sounds.

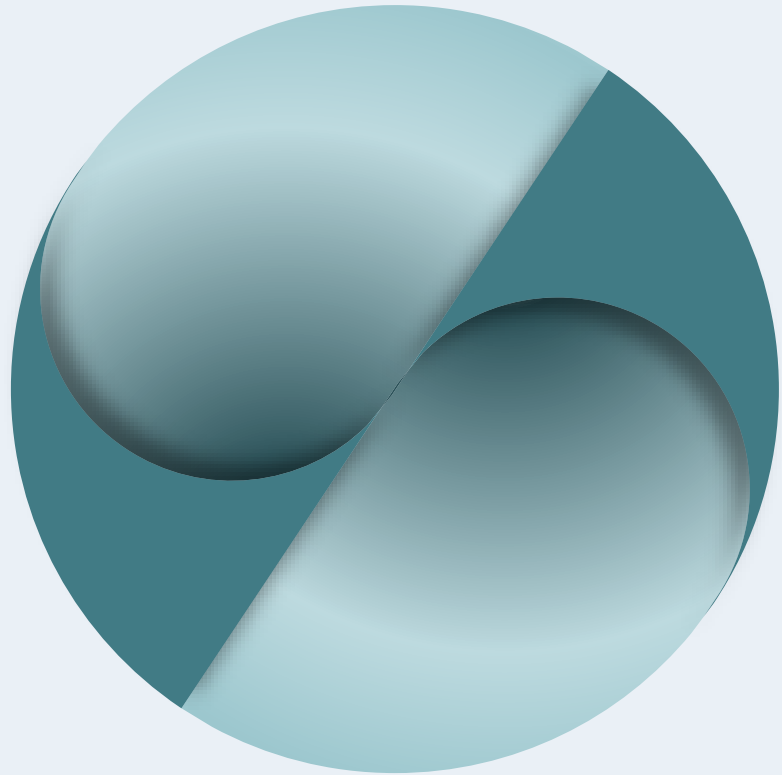
Alphabetic knowledge



- Easily identifying the upper and lower case letters
- Knowing the names of all the letters
- Knowing the sounds each letter makes (under normal conditions)









Explicit Instruction



- Teach students to connect letters to their most common sound or sounds
- Teach students to read words using what they know about the sound that letters and letter combinations make
- Have students begin reading texts that contain a high percentage of decodable words



From Phonological Awareness to Reading Words: The Critical Role of the Alphabetic Principle

Connecting letters with their sounds to read and write is called the “alphabetic principle.”
The alphabetic principle has two parts:

- 1) Alphabetic understanding is knowing that words are made up of letters that represent the sounds of speech.
- 2) Phonological recoding is knowing how to translate the letters in printed words into the sounds they make.

Progression of Regular Word Reading

