



# How We Learn to Read: The Reading Brain

Friday, October 25th

1:00pm - 1:45pm

Presenters: Lisa Thomas Calico Clark Jen Kelly



# 3

## Our learning objectives

We will share information about the brain as it is connected to how we learn to read. As well, we will discuss the foundational skills of phonemic awareness and phonics and how they are integral to reading. You will leave with strategies, and routines that will support your instruction in the classroom

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## De-mystifying the Science of Reading

#### The Science of Reading Is NOT:

- An ideology or philosophy
- A fad, trend new idea or pendulum swing
- A political agenda
- A one-size-fits-all approach
- A program of instruction
- A single, specific component of instruction such as phonics



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# De-mystifying the Science of Reading

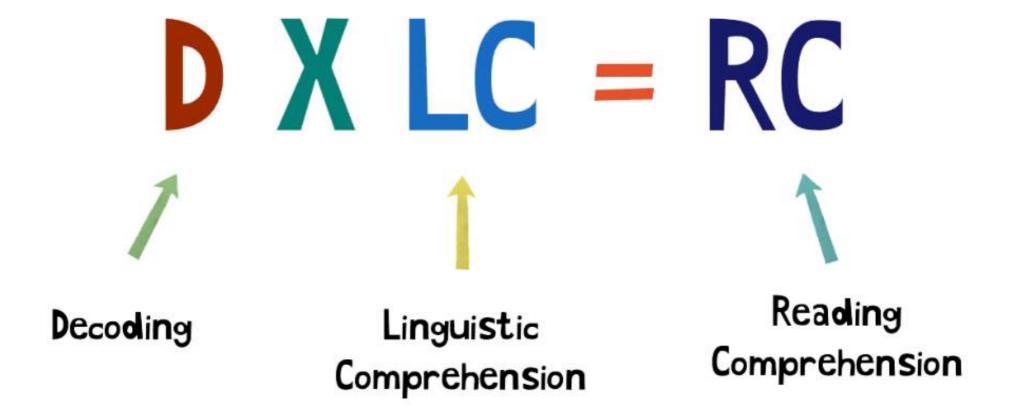
#### The Science of Reading Is:

A vast, interdisciplinary body of scientifically—based research about reading and issues relate to reading and writing

The research has been conducted over the last five decades across the world, and it is derived from thousands of studies conducted in multiple languages. The science of reading has culminated in a preponderance of evidence to inform how proficient reading and wring develop; why some have difficulty; and how we can most effectively assess and teach and, therefore, improve student outcomes through prevention of and intervention for reading difficulties.

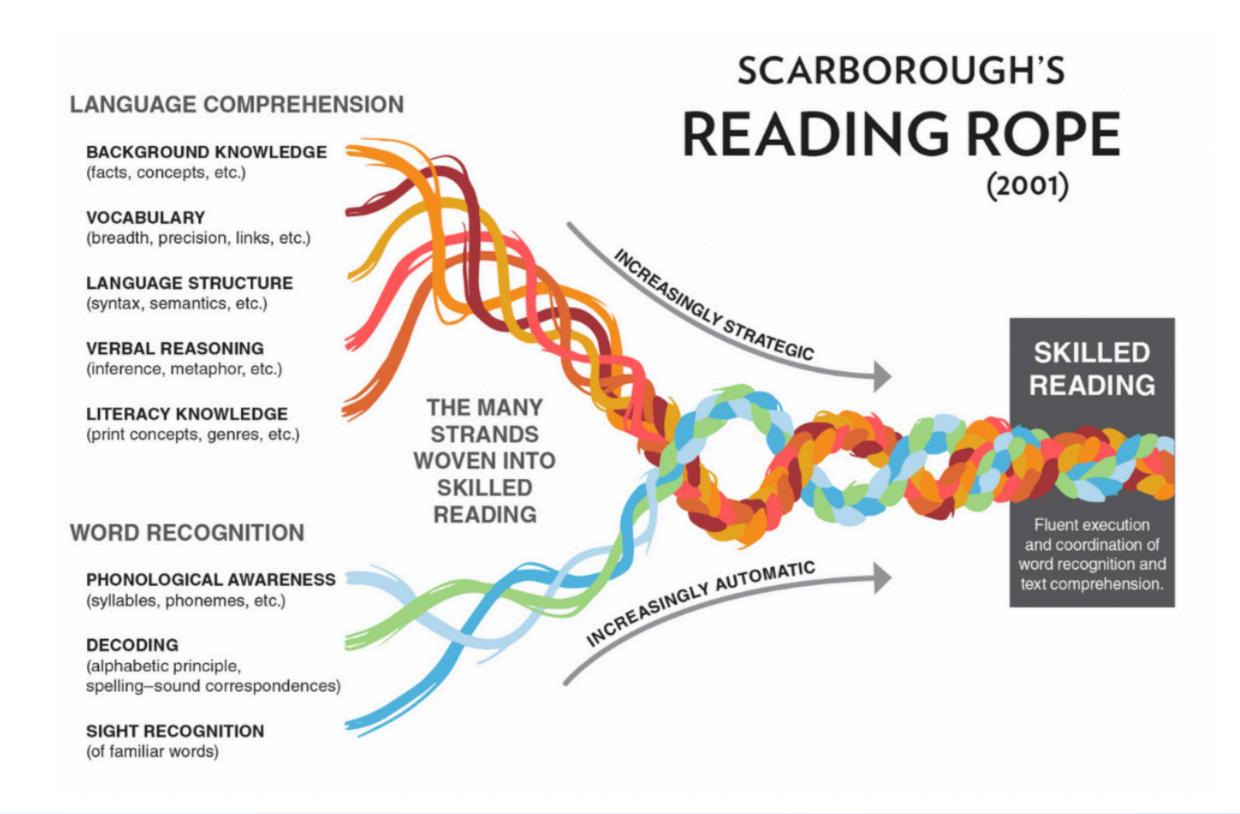


## The Simple View of Reading





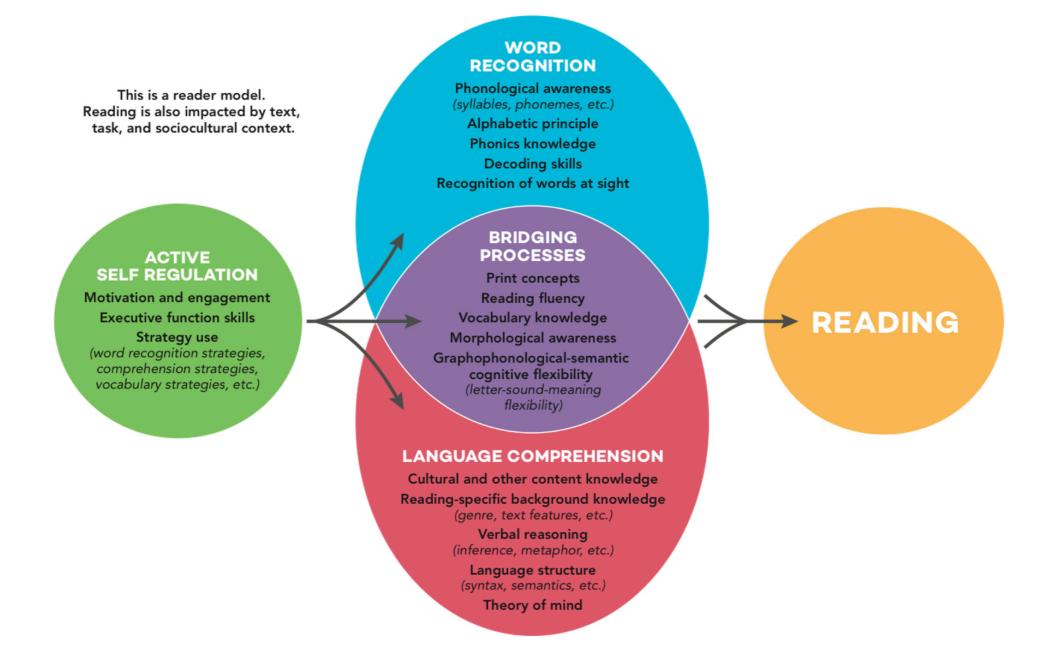
## Scarborough's Reading Rope





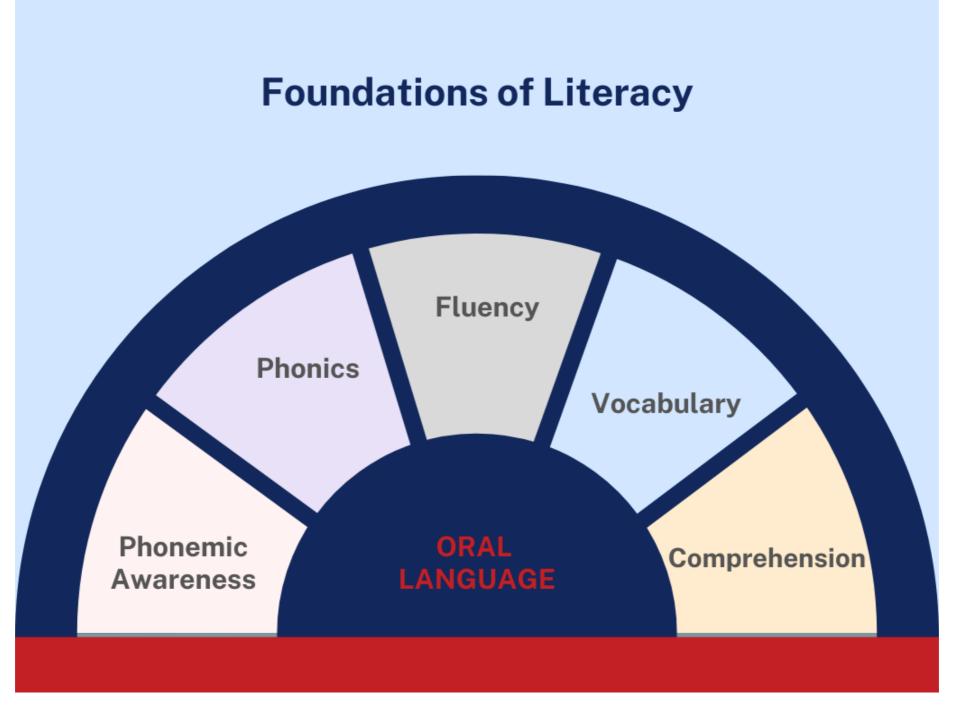
## Active View of Reading

#### **ACTIVE VIEW OF READING**





## Foundational Skills for Reading



Proficiency in these foundational skills is necessary to all students to be reflective, critical and independent readers



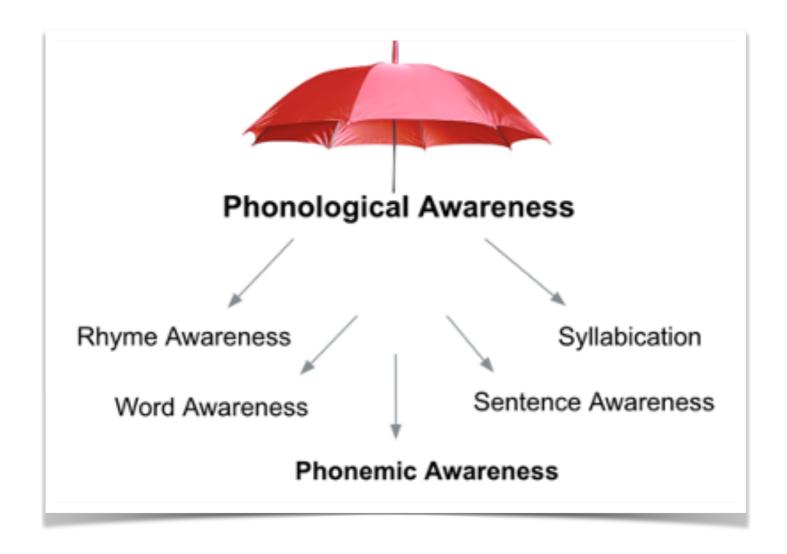
## Phonemic Awareness & Alphabetic Principle

Alphabet recognition and phonemic awareness are the two best predictors of early reading success. Blevins states that "these skills open the gate for reading" (2017).





#### Phonemic Awareness



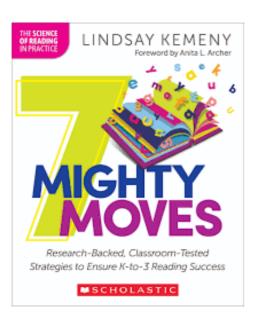
Over nearly four decades of research, "phonemic awareness has consistently been found to be the strongest precursor to, and predictor of, reading achievement" (Kenner, et al).



#### Phonemic Awareness: Instruction

#### Keep in mind:

- Short and frequent sessions
- Focus primarily on blending and segmenting (phoneme—level skills)
- Begin to add letters to this work
- Often integrated into phonics lesson



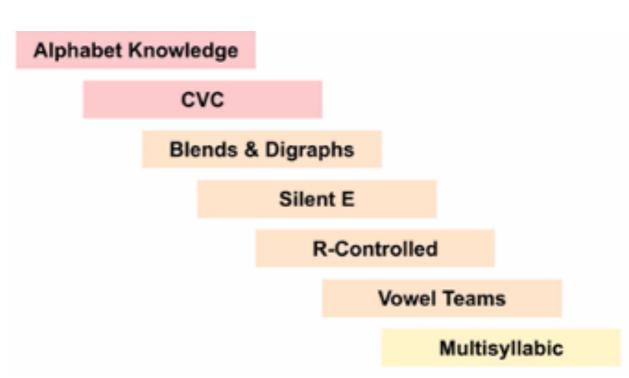
#### Ideas for instructional Strategies:

- · Use manipulatives to keep it playful
  - Elkonin boxes + bingo chips
  - Pop It fidget toys
  - Race cars + tracks
  - Unifix cubes
- Encourage gestures
  - Hand choppers
  - Tap down arm
  - Finger/thumb tap
- Word Chains build phonemic awareness and phonics skills at the same time



#### **Phonics**

Mesmer and Griffith (2005) define phonics as "a system for encoding speech sounds into written symbols".





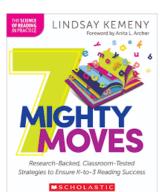
#### Phonics Instruction

#### Keep in mind:

- Systematic: Move from simple to complex
  - Following a scope and sequence
- Explicit: "Today I want to teach you..."
- Keep students engaged by:
  - Inviting student responses
  - Have students come to the
    board to find a word, highlight
    a phonics skill in a word

#### Ideas for instructional Strategies:

- Understand "the code" yourself
- Consider using a Systematic and Explicit phonics program
- White boards will be your best friend!
- Keep lessons lively, and stick to suggested times
- · Don't forget to unpack word meaning
- Word sorts
- · Word chains
- Try multi sensory methods
- Use Elkonin (sound) boxes to support encoding





#### Phonics Instruction









HEAR IT

 phonemic awareness TEACH IT

 name and teach new skill/sound DECODE IT

 decode words with target skill ENCODE IT

 spell words with target skill  read words, sentences and decodable passages

The last two steps should be approximately 50% of your lesson time. Blevins states "students progress at a much faster rate in phonics when the bulk of instructional time is spent on applying the skill to authentic reading and writing.

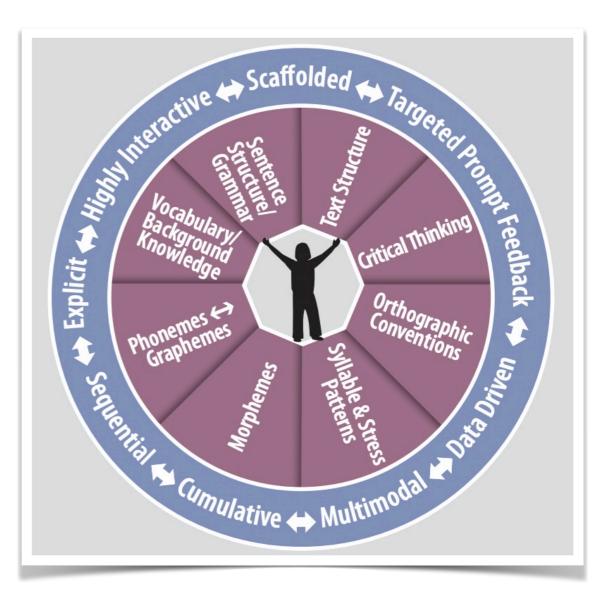


### Structured Literacy: an approach that meets the needs to all learners

evidence—based instructional approach that:

Structured literacy is an

- fosters strong reading and writing instruction for all students
- comprehensive addressing listening,
  speaking, reading, and writing
- characterized by <u>what</u> content is taught and <u>how</u> content is taught



A comprehensive approach that meets the needs of all learners



### Structured Literacy: an approach that meets the needs to all learners

## WHAT is taught:

- Both foundational skills
  AND
- Higher-level literacy skills

# HOW it is taught

- Systematic and Cumulative
  - Organized, from simple to complex, follows a scope and sequence
- Explicit
  - Direct instruction
    - → "Today we are learning to..."
- Continuous student-teacher interaction
- Not assuming all students can infer concepts
- Careful and considered practice
- Prompt and specific feedback (corrective if needed)

I Do. We Do. You Do.

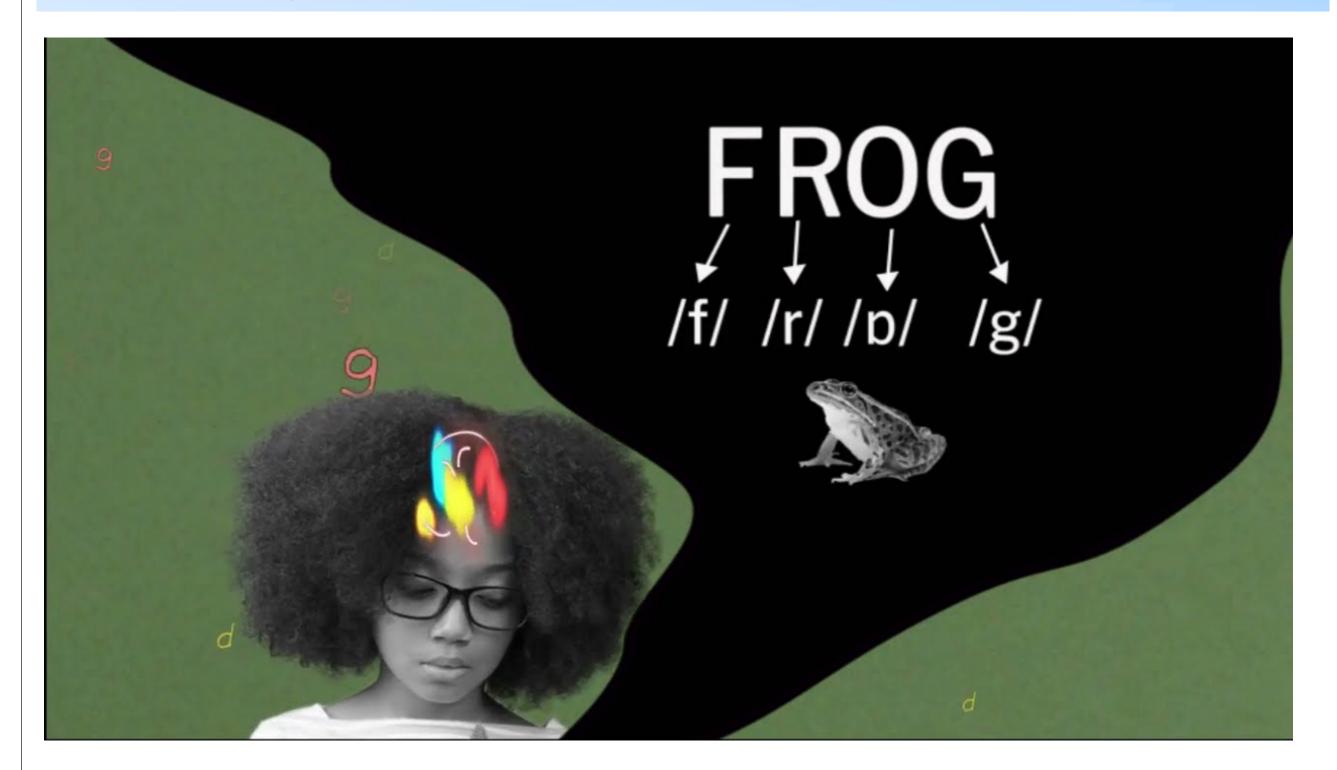


## The Reading Brain

# REGIONS OF THE BRAIN ASSOCIATED WITH READING **Phonological Assembly** (Parieto-Temporal Region) Connects letters to sounds **Phonological Processor Orthographic Processor** (Inferior Frontal Gyrus) (Occipito-Temporal Region) Processes sounds Stores information for automatic word recognition Left hemisphere of the brain



## The Reading Brain





## The role of orthographic mapping in learning to read

Automaticity: reading words with automaticity is a result of <u>orthographic</u> mapping (Ehri, 2014).

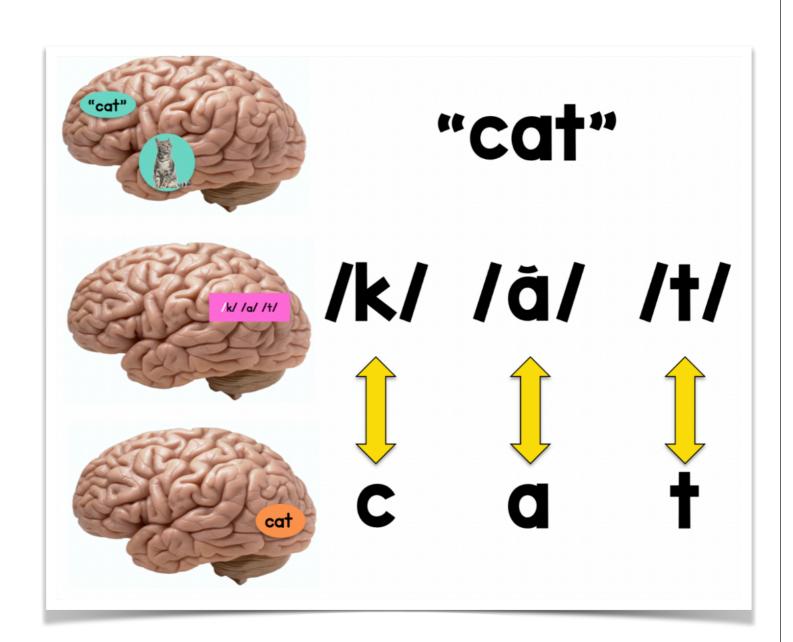
Orthographic mapping is the cognitive process that supports a reader to recognize words instantly as sight words where they no longer need to decode or segment each sound to read a word.



## The role of orthographic mapping in learning to read

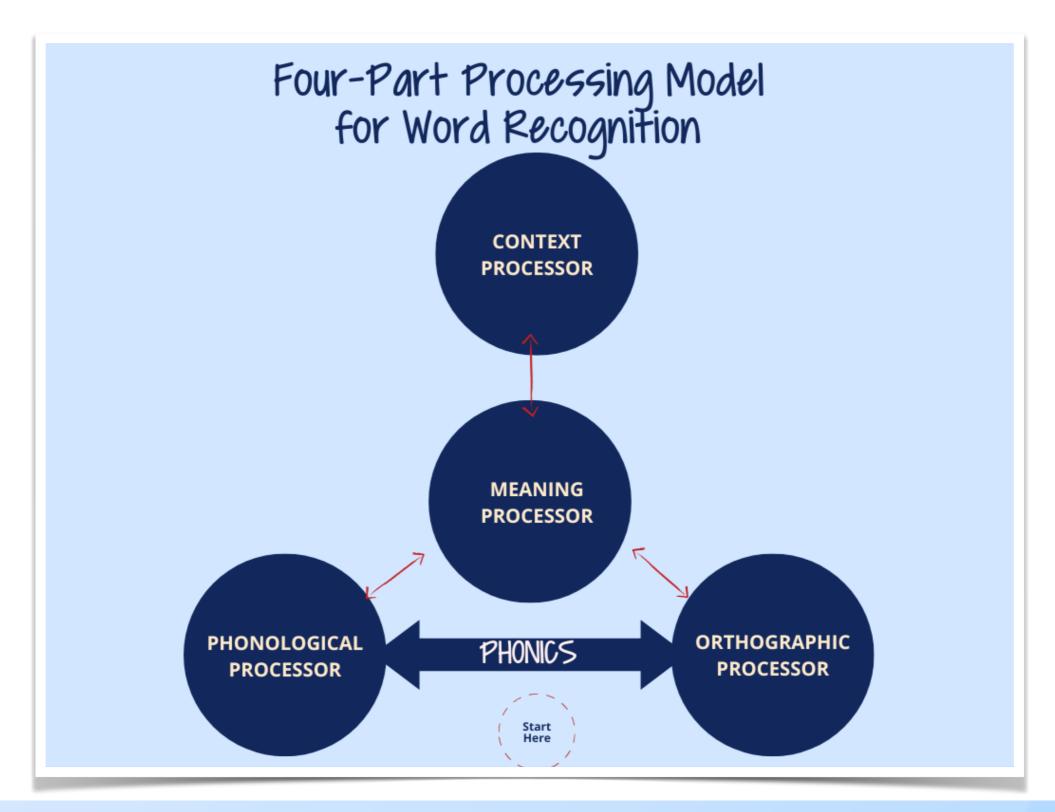
#### Each word has three forms:

- Phonology (sound)
- Meaning
- Orthography (spelling)





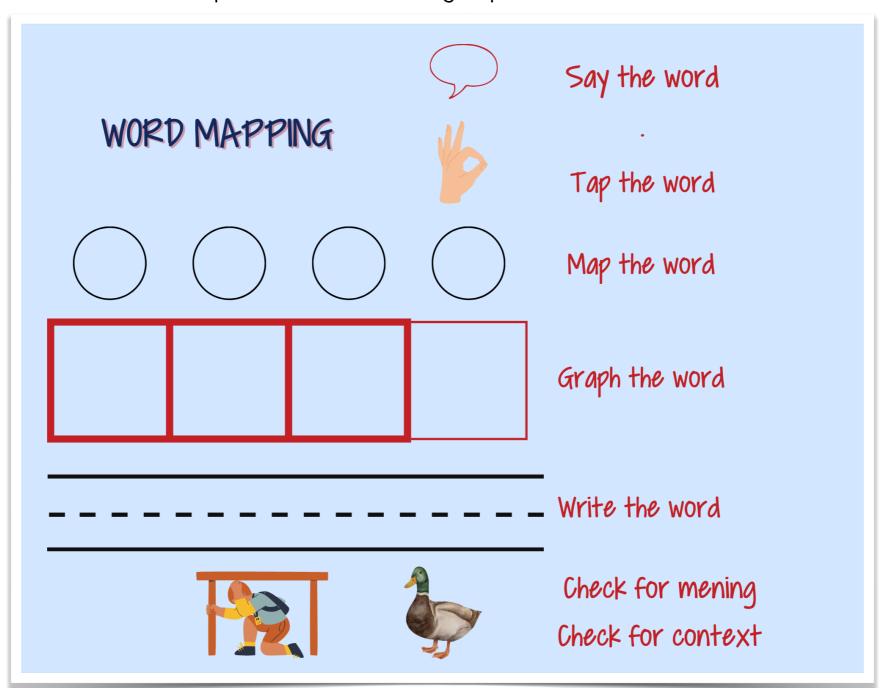
## Four Part Processing Model for Word Recognition





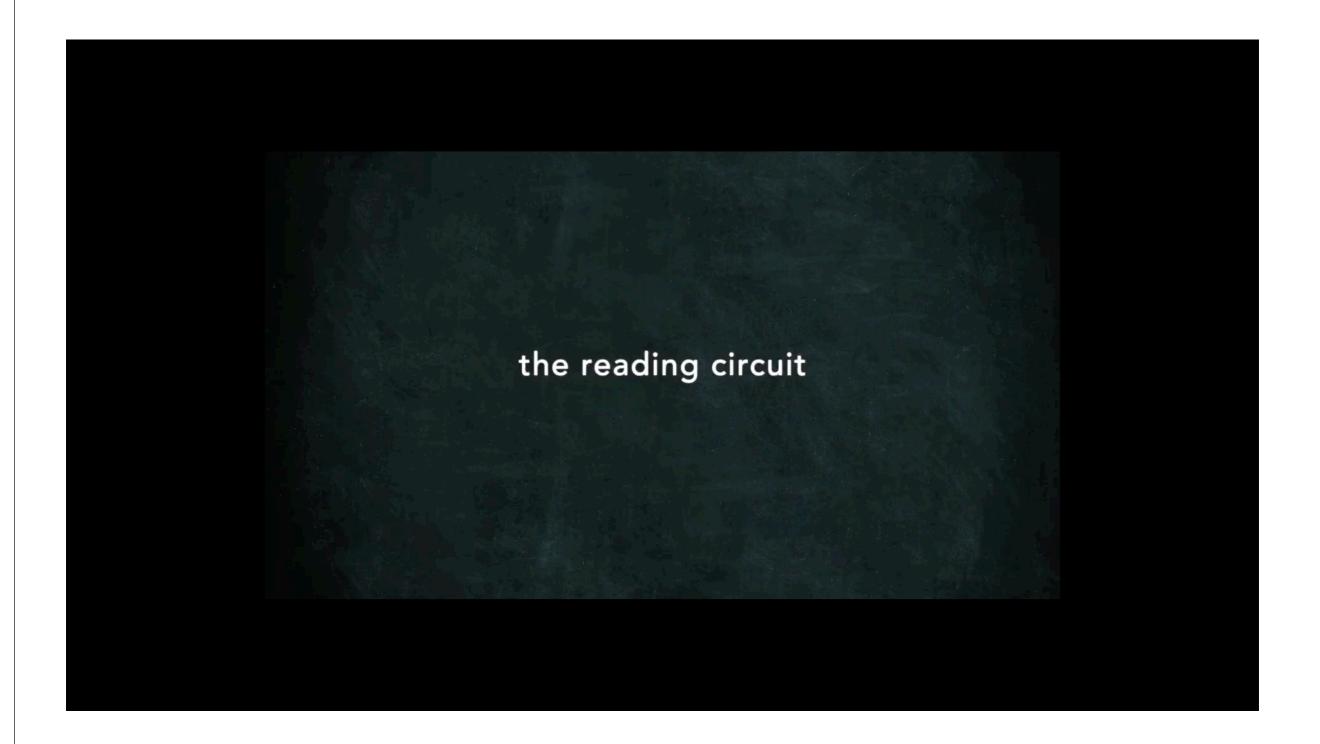
#### Word Mapping: supporting the cognitive process of orthographic mapping

Word mapping is a physical way to represent the **relationship** between the phonemes and graphemes.





## The Reading Brain: a circuit of connections





#### Sources

#### Books & Presentations

Active Reading Classrooms - Kelly, 2023

A Fresh Look at Phonics - Blevins, 2016

Shifting the Balance - Burkins & Yates, 2021

7 Mighty Moves - Kemeny, 2023

## Digital Resources

Maryanne Wolf

Reading Rockets: The Active View of Reading

Reading Rockets: Models of Reading

Beyond the Simple View of Reading

International Dyslexia Association Ontario

Shanahan on Literacy

How We Learn To Read - Harvard Medical School

Evidence for a New Era of Reading Instruction

Sarah's Teaching Snippets





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