Science of Reading: Phonological Awareness & Phonics

Session 1 of 4 in the Science of Reading

November 2020

Meet the TNTP Team

Our Goal:
Teachers will begin to explore what cognitive science tells us about how students learn to read.

Participants will walk away understanding:

- The science of reading
- The what and why behind phonological awareness
- Phonics instruction teaches students the predictable relationships between sounds and spelling patterns
- That students need ample time to practice newly acquired phonics skills both in and out of context

Agenda

- **Science of reading**
- Phonological awareness
- Phonics from basics to advanced

What the "Science of Reading" is *and* is not

"[T]he science of reading" is not an ideology, a philosophy, a political agenda, a one-size-fits-all approach, a program of instruction, or a specific component of instruction. It is **the emerging consensus from many related disciplines**, based on literally thousands of studies, supported by hundreds of millions of research dollars, conducted across the world in many languages.

These studies have revealed a great deal about **how we learn to read, what goes wrong when students don't learn,** and **what kind of instruction is most likely to work the best** for the most students.

95% of students should be reading well with strong instruction

5% Learning to read seems effortless

35%

Learning to read is relatively easy with broad instruction

40 to 50%

Learning to read proficiently requires code-based explicit, systematic, and sequential instruction

10 to 15 % (Dyslexia)

Learning to read requires code-based explicit/systematic/sequential/diagnostic instruction with many repetitions

Young, 2012 [Updated 2017]
(Lyons 1998, NRP 2000)

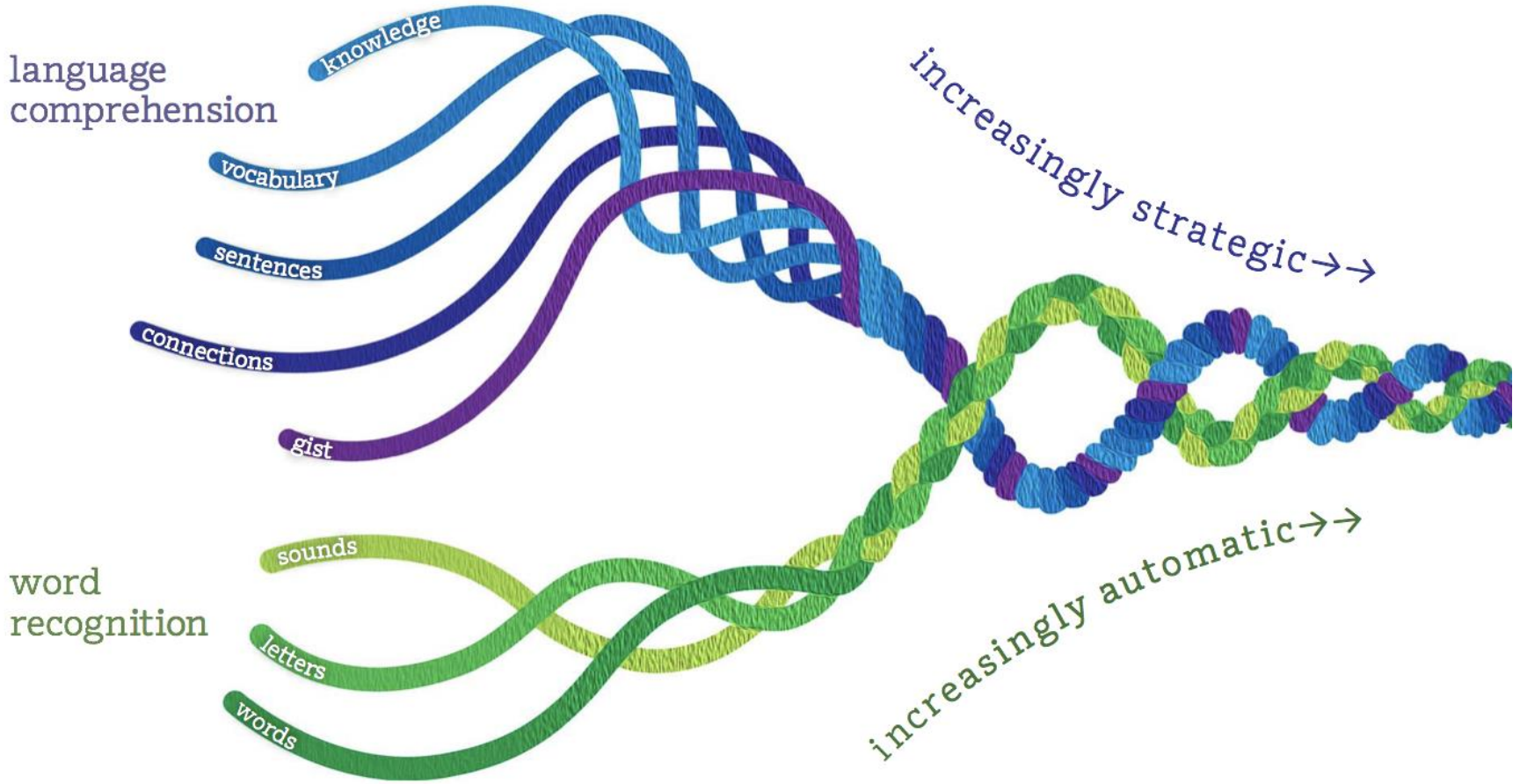
How We Learn to Read: What is Reading Acquisition?

D x **LC** = **RC**

Decoding — **Language Comprehension** — **Reading Comprehension**

(Gough and Tunmer, 1986)

How We Learn to Read: What is Reading Acquisition?



(Scarborough, 2001)

Zooming in on acquiring word recognition

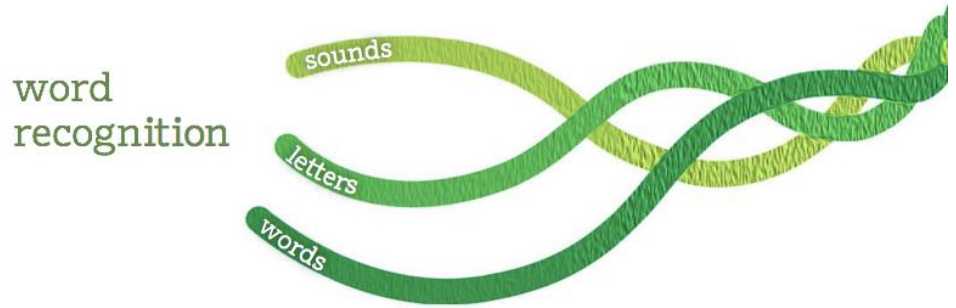
Phonological awareness supports student understanding that words are made up of a series of discrete **sounds**.

Phonics teaches students how to map these sounds onto **letters and spellings**.

The more phonics students learn, the better able they are to **decode**, or sound out words efficiently and they begin to build **word recognition.**

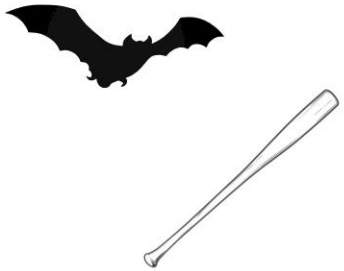
When students begin to recognize many words **automatically**, their reading starts to feel more and more effortless. This is a process called **orthographic mapping**.

Fluency, or reading accurately and smoothly, is partly a by-product of orthographic mapping. As sentences become more complex, students need to get through enough words fast enough to make sense of what they are reading.



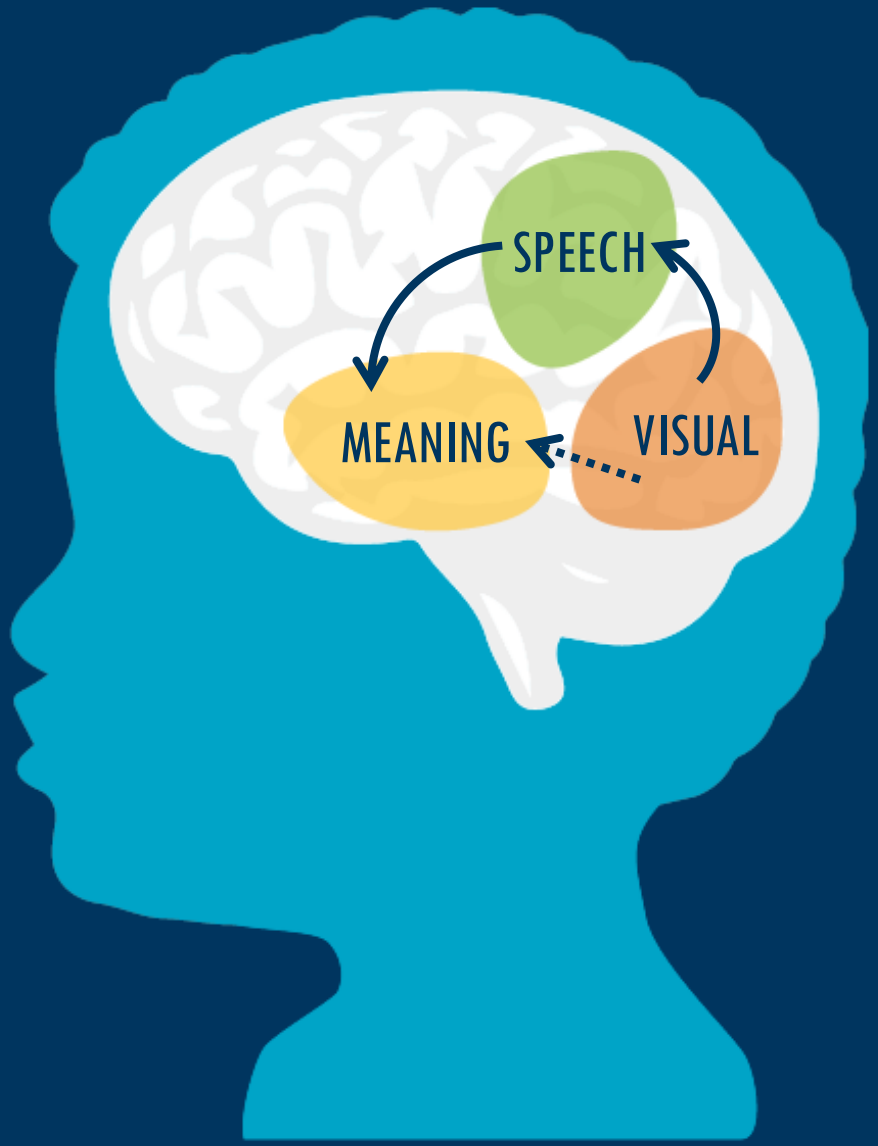
Adapted from Blevins

A single word has 3 representations

Visual	Speech	Meaning
Orthographic Representation	Phonological Representation	Semantic Representation
bat		

Let's review the brain science behind reading acquisition to understand how students develop these skills.

Reading instruction builds neural pathways that do not occur naturally in our brains.

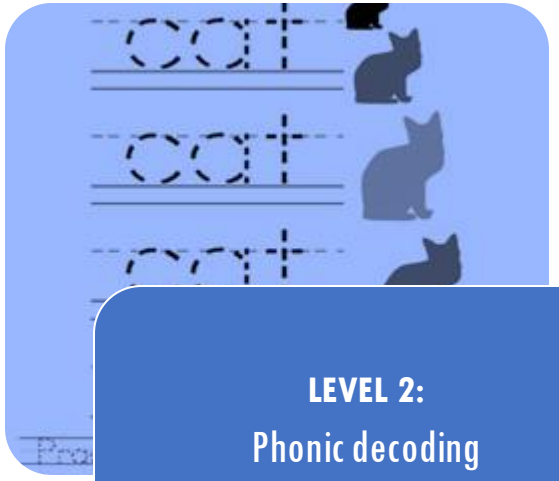


The science of reading drives effective reading instruction

LEVEL 1:

Letters and sounds

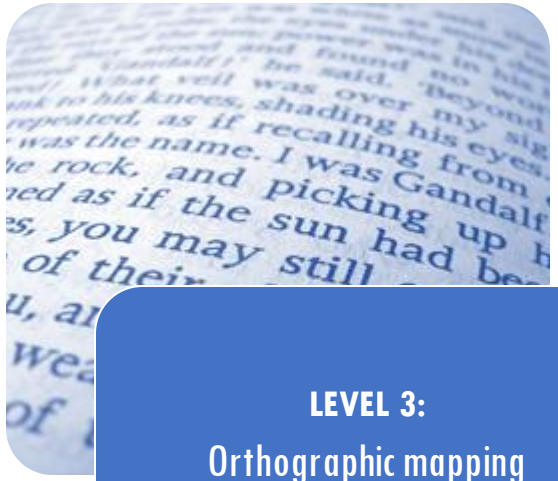
Children learn letter names and letter sounds



LEVEL 2:

Phonic decoding

Children combine letter-sound knowledge with phonological blending to sound out unfamiliar words



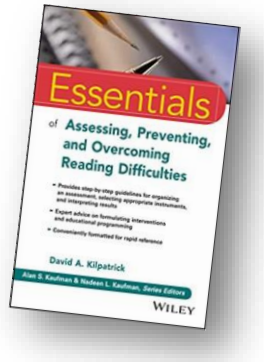
LEVEL 3:

Orthographic mapping

Children efficiently expand their sight vocabularies.

David A. Kilpatrick provides this "set of three developmental levels that helps organize and integrate research related to phonological awareness development, reading acquisition, and reading difficulties."

(*Essentials of Assessing, Preventing, and Overcoming Reading Difficulties*, page 91)



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- **Phonological awareness**
- Phonics from basics to advanced

Phonological Awareness: Defining Key Terms

Phonological Awareness

the ability to reflect on and manipulate the component **sounds** of **spoken words**
e.g. rhymes, syllables

Phonemic Awareness

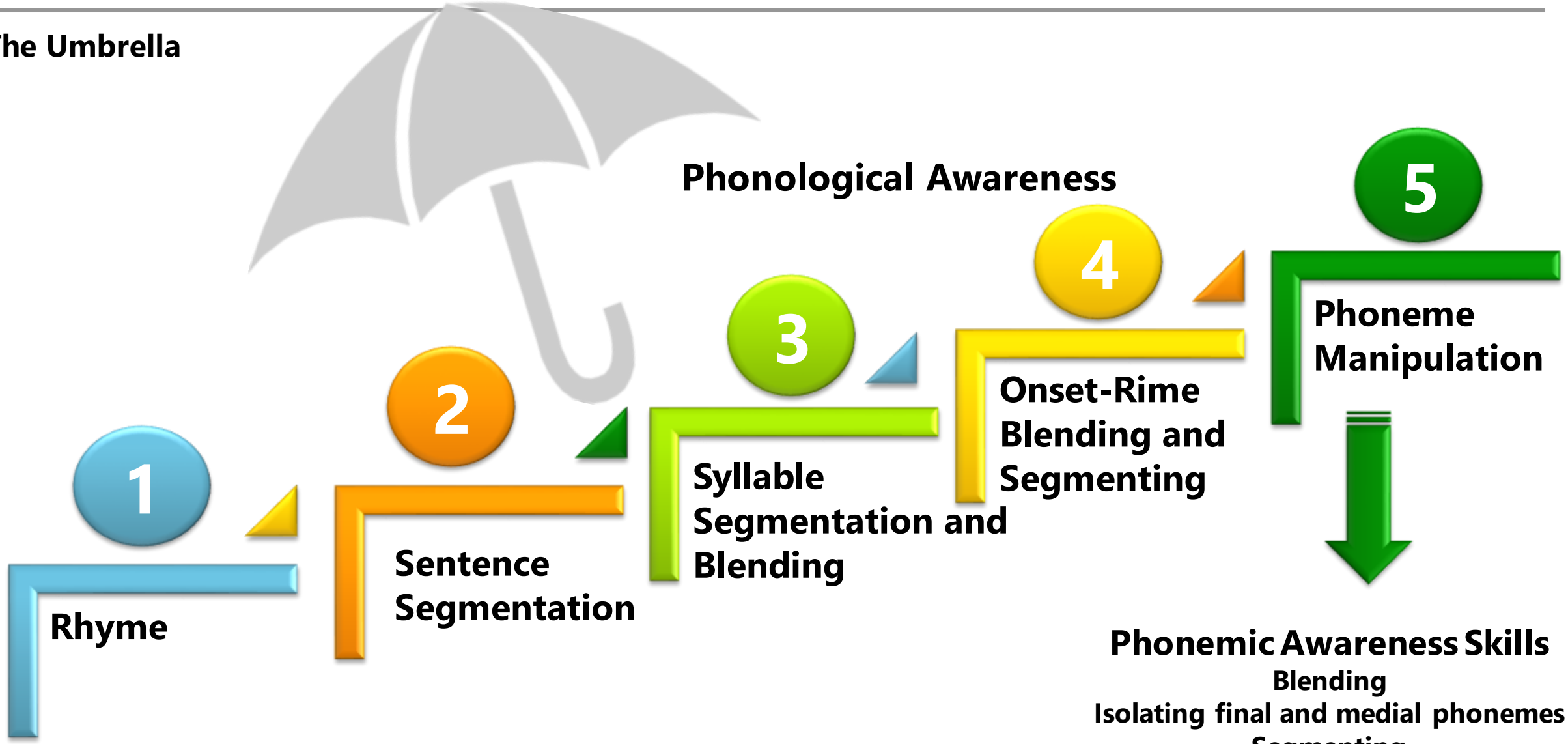
a **particular type** of phonological awareness: the ability to reflect on and manipulate the **phonemes** in **spoken words**

Phonemes = individual sounds
e.g. /m/ or /th/

Phonics

the system by which the **sounds** in spoken language are **represented by the letters in printed language**

The Umbrella



Phonemic Awareness Skills

Blending
Isolating final and medial phonemes
Segmenting
Adding
Deleting
Substituting

In the example of phonemic awareness instruction, look for…

SYSTEMATIC	Systematic and sequenced K-3 instruction and intervention.
EXPLICIT	Explicit and intentional daily instruction.
PRACTICE	Practice of specific skills in and out of text, including meaning-making with decodable text.
ASSESSMENT DRIVES INSTRUCTION	Corrective feedback in the moment. Frequent informal and formal data collection drives grade-level and targeted remediation and acceleration.

Best Practices for Phonological Awareness Activities

How do you know this lesson model targeted phonological awareness?
What skills were targeted? (Think about the umbrella)
How did the model reflect best practices?

SYSTEMATIC

- **In Kindergarten and Grade 1**, follow the ladder of phonological skills and spend the most time on **phoneme manipulation (blending, segmenting, adding, deleting and substituting)** – crucial for reading and writing. Don't stop at blending and segmenting!
- **In grades 2+** continue building phonological awareness but **tie to print --** phonics activities will reinforce and strengthen phonemic awareness.

EXPLICIT

- Tell students *what* and *why*. Reinforce skills with **manipulatives** or **kinesthetic movements**.

PRACTICE

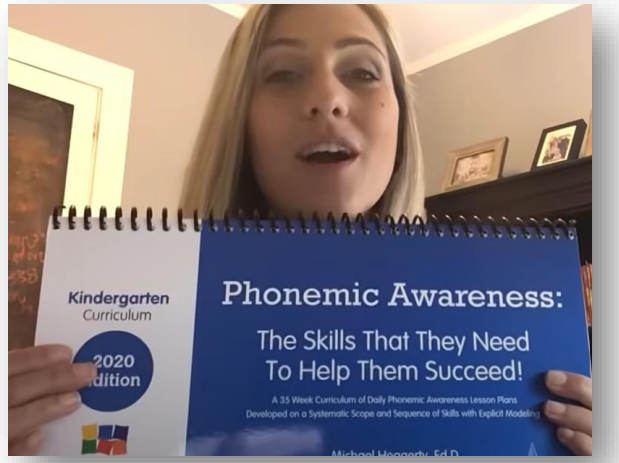
- Provide multiple **"at bats"**. Students will need up to 6-8 weeks with a new skill until it becomes automatic.

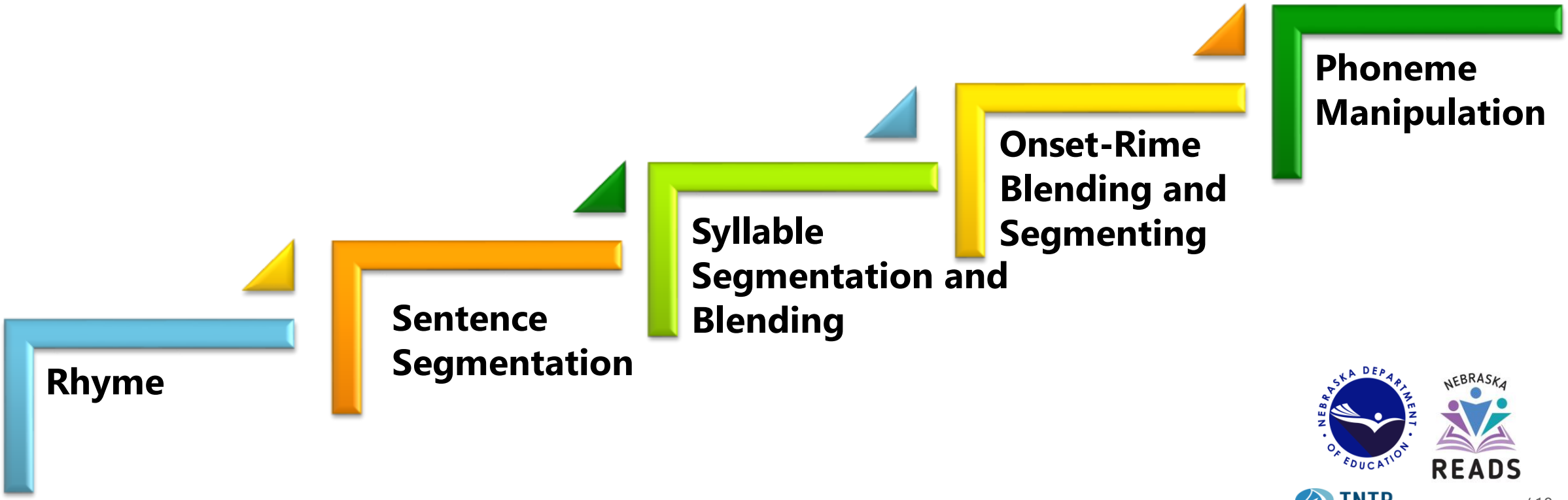
ASSESSMENT DRIVES INSTRUCTION

- When you have a struggling reader, **assess** their phonemic awareness using a test that is sensitive enough to reveal issues with higher level phonemic awareness skills.

Experience a Phonemic Awareness Lesson

- SYSTEMATIC
- EXPLICIT
- PRACTICE
- ASSESSMENT DRIVES INSTRUCTION





Why is phonemic awareness so important and what is the opportunity?

Many students struggle with phonics because they don't have the prerequisite phonemic awareness skills… Research shows that **approximately 20% of students lack phonemic awareness**… Many of these students will fall behind their peers and/or be diagnosed with a disability.

However, **phonemic awareness can be taught**. And it doesn't take a great deal of time to bring many students' phonemic awareness skills up to a level at which phonics instruction begins to make sense… **As few as 11-15 hours** of intensive phonemic awareness training spread out over an appropriate time produced results… **The goal of this instruction is understanding how words work.**

-from Wiley Blevins *Fresh Look at Phonics*

Reflection

Think about the **four principles of strong foundational skills instruction**.

- What new or deeper understanding do you have of **phonological and phonemic awareness**?
- What do you want to **continue, change, start, or stop** doing in your own practice?
- How will the **four principles impact** opportunities for students?

☑ **SYSTEMATIC**	Systematic and sequenced K-3 instruction and intervention.
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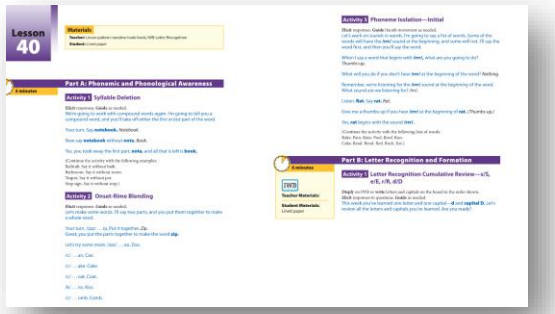

NEBRASKA DEPARTMENT OF EDUCATION

NEBRASKA READS

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- **Phonics from basics to advanced**

The science of reading drives effective reading instruction

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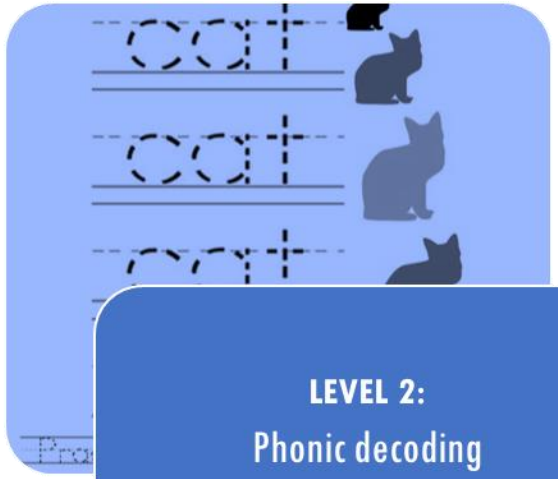

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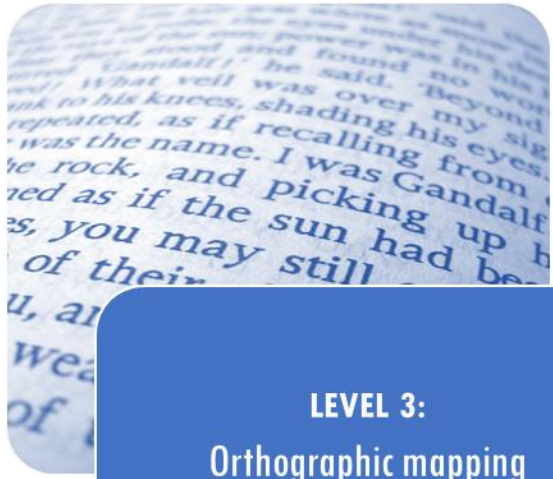

LEVEL 3:

Orthographic mapping

Children efficiently expand their sight vocabularies.

- ✓ SYSTEMATIC
- ✓ EXPLICIT
- ✓ PRACTICE
- ✓ ASSESSMENT DRIVES INSTRUCTION

Instruction in phonics should be systematic, explicit, and include student practice.

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Let's watch a clip of instruction in Alicia Cuomo's 1st grade classroom. In this video, students are learning the long /i/ sound spelled i_e.

https://www.youtube.com/watch?v=wrv8ZXa3np8

Jot down evidence of **systematic**, **explicit** instruction with opportunities for **practice**.

What is the value of a systematic scope & sequence?

s m t d l

s m a t d

2 Explicit **Research suggests that foundational skills instruction should be *at least 30-45 minutes daily* in K-2.**

During this time, each student should be engaged with foundational skills with opportunities to:

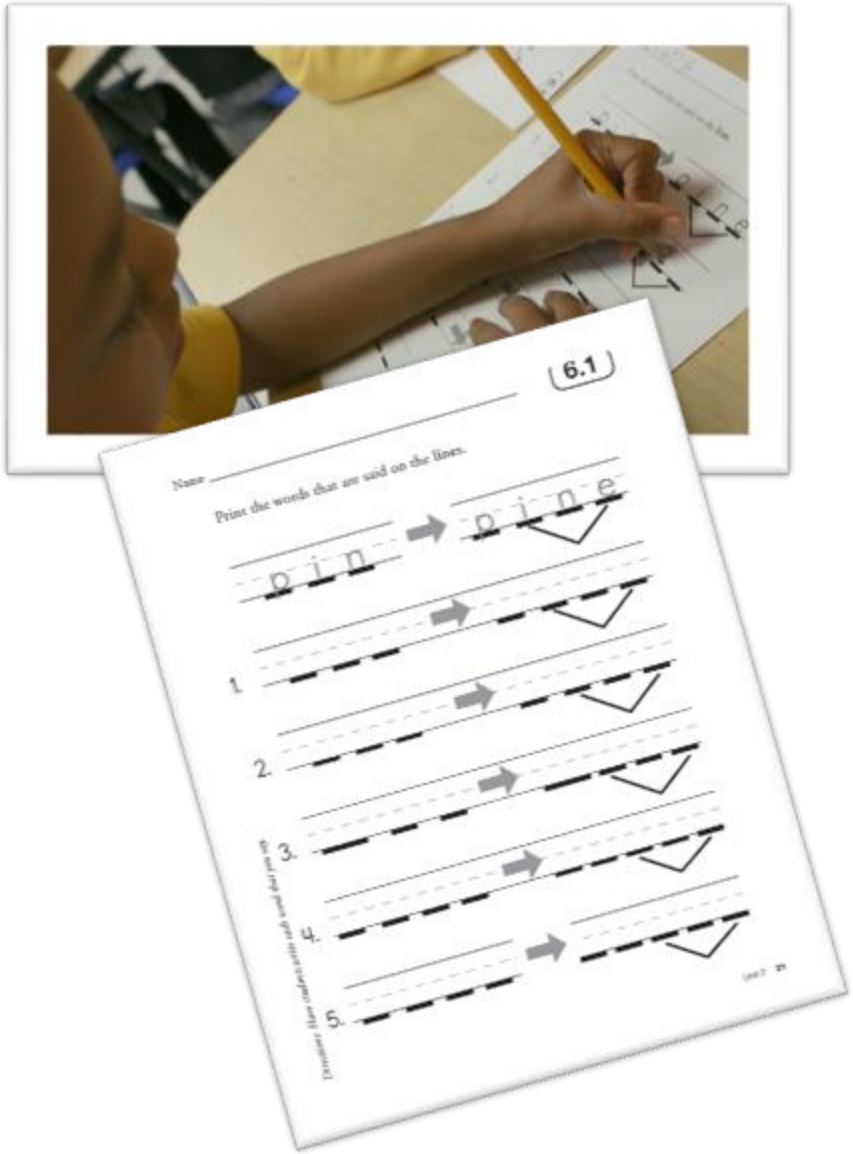
Hear it.

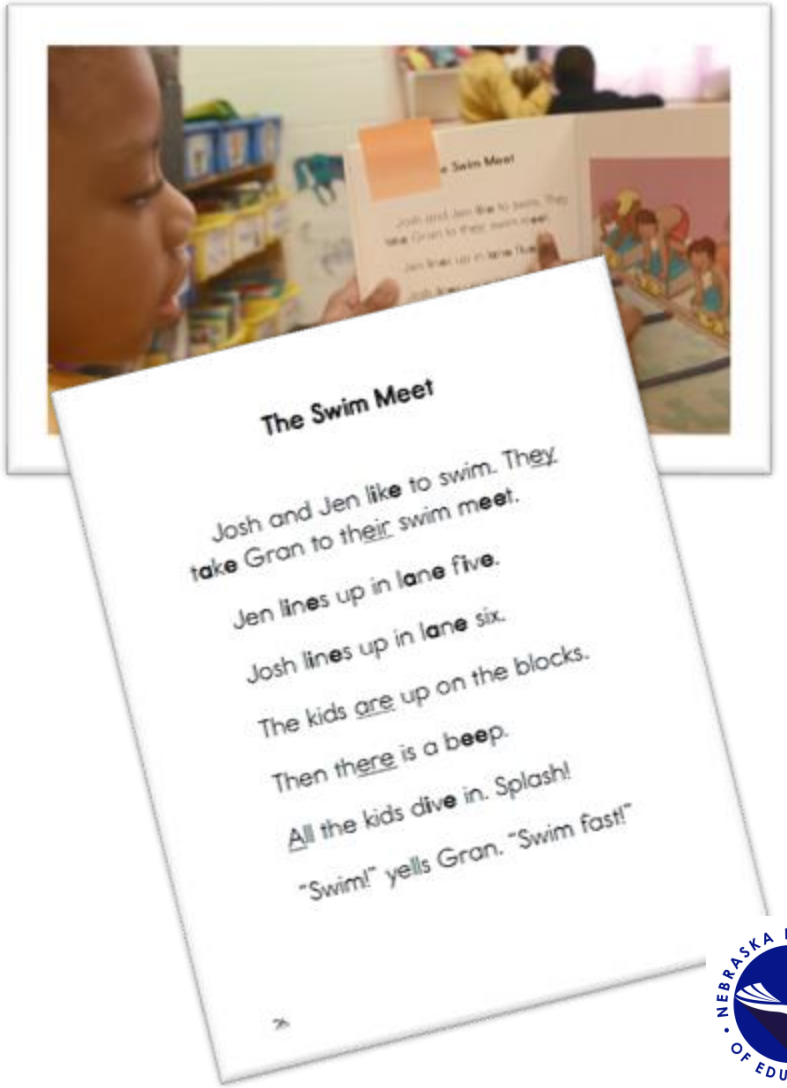
Say it.

Read it.

Spell it (Write it.)

3 Practice Ample opportunities for practice BOTH in and out of context.





3 Practice **Students should practice the same skills they were explicitly taught in real text.**

Seth

This is Se**th** Smi**th**.

Se**th** is ten.

2

3

Se**th** must get in bed at ten.

Se**th** can jump on his bed, but not past ten.

Se**th** can stomp and romp and stand on his hands, but not past ten.

4

3 Practice **Predictable text and decodable texts are fundamentally different.**

My garden has seeds.

My garden has birds.

My garden has sun.

My garden has water.

My garden has seeds. My garden has birds. My garden has sun. My garden has water. My garden has rabbits. My garden has weeds.

My dad had a hot ham.

Hap hid it.

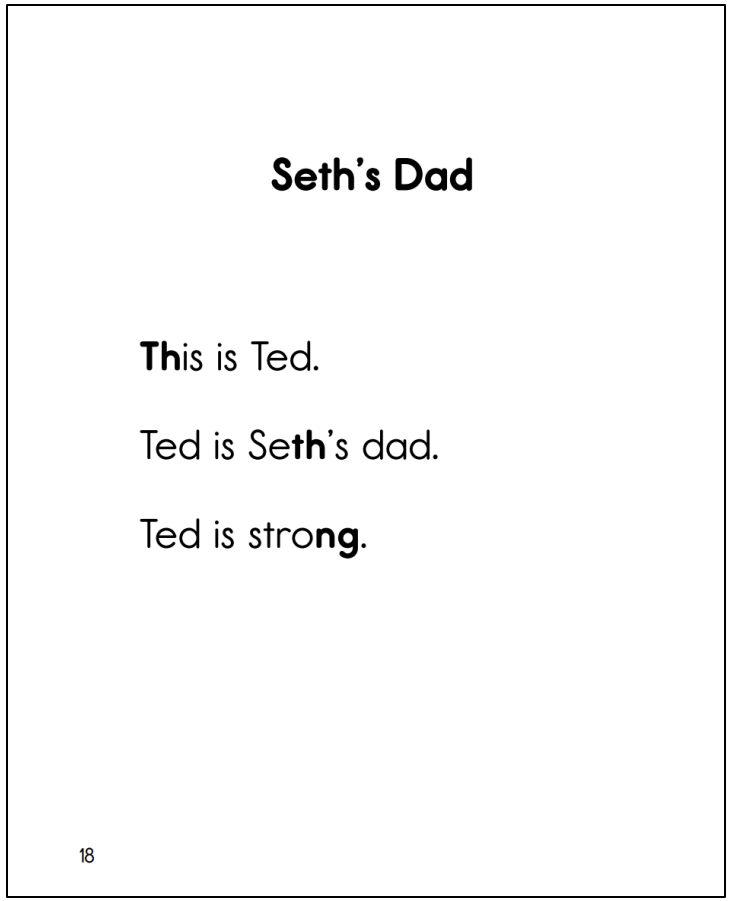
Dad did not see it.
Dad had to sit.

Dad had a hot pan.
Dad had a tin can.

Hap hid the ham.
See it in my hat?

My dad had a hot ham. Hap hid it. Dad did not see it. Dad had to sit. Dad had a hot pan. Dad had a tin can. Hap hid the ham. See it in my hat?

Students should also make meaning from decoded text—but don't overdo it.



Seth's Dad

This is Ted.

Ted is Se**th**'s dad.

Ted is stro**ng**.

18

Ask this:

Who's the main character?
What did he do during the story?
What do we know about Seth's dad?

Not this:

What's the main idea or theme of this book?
Compare and contrast Seth with the character from yesterday's book.
Provide evidence that Ted is strong.

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(Lyons 1998, NRP 2000)

Who tends to get by with just a little explicit instruction and practice?

Students who typically need LESS explicit instruction:
Are read to more and get lots of talk about letters and letters sounds as part of that experience.
Spend lots of time pretend-reading books; tend to read favorites multiple times.
Have access to preschools that expose them phonological awareness and early reading activities.
Have a wider range of general knowledge when entering school (from preschool, books, or experience).
Possess a wider-ranging vocabulary entering school.
Spend less time on screens
Get frequent enrichment opportunities, and have access to tutoring as needed

Adapted from: Liben & Liben, 2019

Reflection

Think about the **four principles of strong foundational skills instruction:**

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Thank you

Comments, questions, suggestions

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