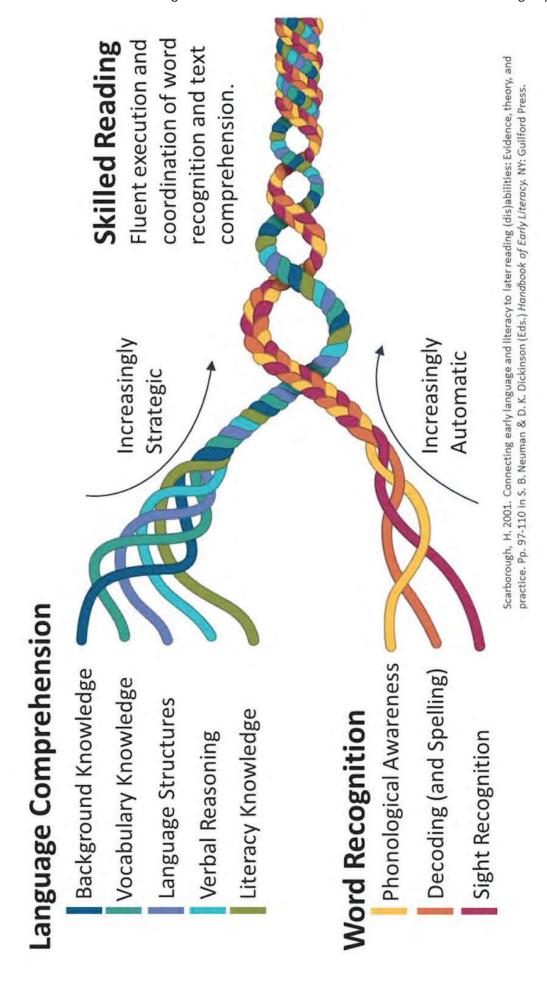
# The Science of Reading:

# The Connection to Instruction and Materials





Verbal Reasoning	Sight Recognition
Language Structures	Decoding and Encoding
Vocabulary  1	Phonological Awareness
Background Knowledge	Literacy Knowledge



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This strand is all about demonstrating a level of knowledge relative to subject matter.

Giving students the opportunity to read nonfiction and literary texts that reinforce and scaffold what they are learning in their content areas will give students the schema to which they can tie new learning.

The greatest reading comprehension tool is not a set of strategies or tools that are content-free; rather, it is a well-stocked mind.

Texts used are rich and meaningful.

This strand consists of one standard: finding meaning. This strand is a building block of knowledge and essential to a thorough understanding of text.

An important element is determining which words require direct instruction and which words students can determine for themselves using context clues or morphology as appropriate.

Texts used are rich and meaningful.

This strand focuses on structure, semantics and syntax.

Structure within a text is the plan, organization or the way something is arranged.

Semantics is the study of word and phrase meanings. Semantics relates to the context, the situation within which something exists or happens within a text. Semantics also relates to connotation, the language that communicates a feeling or idea that is suggested by a word in addition to its basic meaning, or something suggested by an object or situation in a text.

Syntax is the formation of sentences and the associated grammatical rules.

Texts used are rich and meaningful.

This strand supports the idea that English Language Arts is not a discrete set of skills, but a rich discipline with meaningful, significant content.

Students demonstrate a knowledge of basic print concepts, which is the ability to locate a printed word on a page, distinguish letters from words within sentences, match print to speech, identify parts of a book, move from top to bottom and left to right when reading, and recognize that print conveys specific meaning and pictures that may support meaning.

Readers are exposed to a full spectrum of genres: classic literature, folktales, poetry, satire, memoirs, essays, speeches, plays, narratives, treatises, founding documents and histories.

Texts used are rich and meaningful.

This strand strengthens the ability to segment sounds in speech at the syllable, onset-rime and phoneme level.

Phonemic Awareness is a subcategory that is essential for reading, including the awareness of individual sounds/phonemes in spoken words.

Instruction is well-paced, and immediate feedback is provided to students.

Work within this strand focuses on translating a word from print to speech, usually by employing knowledge of letter sound relationships; also, the act of deciphering a new word by sounding it out

Connected texts used contain explicitly taught phonetic principles and high frequency words.

Students engage in encoding application, which is the ability to determine the spelling of a word based on the sounds in the word.

Instruction is well-paced, and immediate feedback is provided to students.

This strand supports the idea that words can be recognized efficiently at a glance when they are orthographically mapped and committed to memory. Note: The goal is that all words eventually become sight words. Learning to automatically recognize irregular and regular words makes them "sight" words that can support fluency development. Practicing reading using decodable texts with some irregular words is important. As students consolidate their alphabetic skills, they should practice reading familiar text to build fluency.

Instruction is well-paced and immediate feedback is provided to students.

This strand focuses on skills such as inference making and the ability to use and understand figurative language.

Inferencing is the ability to form an opinion from evidence; to reach a conclusion based on known facts.

Figurative Language is language expressing one thing in terms normally denoting another with which it may be regarded as analogous language characterized by figures of speech.

Texts used are rich and meaningful.



### How Children Learn to Read Words: Ehri's Phases

Holly B. Lane, Ph.D.

Through decades of research on beginning readers, Linnea Ehri (1995) developed a theory about how word reading skills develop. Her theory helps us understand the phases children move through on their way to proficient reading. Understanding this theory also helps us understand how to promote progress through these phases in both typically developing and struggling readers.

### **Pre-Alphabetic Phase**

The first of Ehri's phases is the **pre-alphabetic phase.** A child in this phase has little or no alphabetic knowledge and, instead, uses other cues to figure out words. Most often, the cues are visual cues, such as a picture on the page. A visual cue could also be the shape of a word or an





accompanying logo. When a young child sees a familiar logo and says the name of the brand or product, his parents may think that he can read, but what he's really doing is recognizing a logo and attaching it to a word he knows. He would not recognize the word without the logo.

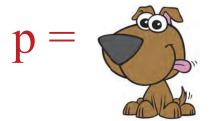
Children in this phase recognize some words as pictures and read words as wholes. They use context clues, pictures and guessing strategies to identify words. They also match voice to print in memorized texts. Children in the prealphabetic phase notice semantic rather than phonological relationships and they make arbitrary rather than systematic connections.

The pre-alphabetic phase is a perfectly normal part of reading development, but by sometime early in kindergarten, once phonics instruction has begun, typically developing readers have moved through this phase and into the next. Instruction for children in this phase should focus on phonological awareness, alphabet knowledge and grapheme-phoneme correspondences.

# **Partial Alphabetic Phase**

Children in the **partial alphabetic phase** demonstrate emerging use of grapheme-phoneme, or letter-sound connections. This is known as phonetic cue reading, but usually, the connections are incomplete or unreliable. Children in this phase often use the first letter sound, along with the context, to guess unfamiliar words. For example, because in one instance they encountered the word "puppy," which begins with the letter P, they may guess that each subsequent word that begins

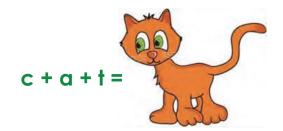
with P is "puppy." They may also occasionally use the last letter sound or other letters to figure out a word. The partial alphabetic phase is more reliable than visual cue reading, but it provides no way to read novel words in print. Instruction in this phase should reinforce letter-sound knowledge and phonemic awareness, with an emphasis on using all of the letters in each word.



# **Full Alphabetic Phase**

In the **full alphabetic phase**, the reader attends to every letter in every word. Words are accessed through phonological recoding, or converting graphemes into phonological representations, or put more simply, converting letters into sounds and words. This phase is dramatically more reliable than

phonetic cue reading. A child in this phase has a working knowledge of most lettersound correspondences, has phonemic awareness, decodes sequentially and often slowly, and uses decoding skills to read unfamiliar words.



Typically developing readers begin the full alphabetic phase by late kindergarten or early first grade, as their phonics instruction progresses and as their phonemic awareness develops. Instruction in this phase should focus on segmenting and blending phonemes and on getting children to attend to every grapheme individually. Repeated exposures to words with taught grapheme-phoneme correspondences is necessary for growth through this phase. This exposure promotes **orthographic mapping**, or the strengthening of associations between graphemes and phonemes "to bond the spellings, pronunciations, and meanings of specific words in memory" (Ehri, 2014, pg. 5).

# **Consolidated Alphabetic Phase**

When readers reach the **consolidated alphabetic phase**, they begin to use chunks to decode, rather than individual phonemes. Phonograms, or multi-letter patterns, such as consonant blends, digraphs and vowel teams, are consolidated in memory and recognized instantly, as are common word families, affixes and other common letter patterns. Syllables and morphemes are also recognized as chunks. In fact, Ehri (2014) has referred to this phase as the consolidated graphosyllabic and grapho-morphemic phase. Orthographic mapping continues to develop as these chunks become more instantly recognizable, and readers more readily teach themselves new connections (Share, 1995).

This is considered the most mature form of reading. Typically, this phase begins sometime in second grade and continues to develop as readers become more automatic in their word reading skills. Instruction in this phase should focus on the recognition of the various chunks within words. To promote orthographic mapping, students should pronounce each new word aloud as they read silently to form spelling-sound connections and phonological memory for the word.

### **Automatic Phase**

The automatic phase is considered the final phase in word reading development (Ehri & McCormick, 1998). Word reading is quick and effortless, and most words encountered have become sight words. Unfamiliar words are decoded with highly developed automaticity, and with particularly technical words, readers have a variety of strategies at their disposal. At this phase, the reader is able to focus entirely on the meaning of text. Most proficient adolescent and adult readers have reached the automatic phase.

### References

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Students have been reading about plants and pollination during their Living Things Unit of Study. A teacher is about to read aloud "Give Bees a Chance." The teacher asked students to think about what they already know about bees based on the texts, photographs, and videos they have engaged with thus far.  Students were then asked to share with a shoulder partner.  The teacher then circulates the room listening to student	During the writing block, the teacher is circulating and helping students with the editing stage of the writing process. With one student, the teacher is calling attention to subject-verb agreement.	Students are making nonlinguistic representations of phrases (e.g., busy as a bee, as sweet as honey, What's all the buzz about?).	Students are working on analyzing a piece of poetry. They are looking at each stanza and discussing the meaning of each stanza and how it applies to the poem as a whole.
A kindergarten teacher is preparing to read aloud, "Where the Wild Things Are." Before beginning the reading, the teacher calls attention to the front of the book and the back of the book.	Students are reading a text and the teacher has them pause at the word tarnish. The teacher asks the students to think about the word's meaning. The students respond that they do not know what the word means. The teacher has two paper clips. One was shiny and the other was not. The teacher has the students analyze the difference and holds up the tarnished paper clip. The teacher says, "This paper clip is tarnished." The teacher then has the students reread the sentence with the word tarnish and discuss with their table team what it means in the context of the text.	Students are working independently to read and respond to a text. The teacher stops next to a student to listen in to the reading. The student's reading is effortless. Unfamiliar words are decoded with automaticity.	A teacher is preparing to utilize the poem, "Gathering Leaves" by Robert Frost. The teacher had created a PowerPoint presentation with various pictures displaying the fall season. During the reading of the poem, the teacher is emphasizing words and phrases that will help students activate their senses to make a mental model of the poem.

Students are rereading text and identifying examples of figurative language. They will then use figurative language in their own writing.	Students are working on closed syllables. Their specific focus is CVC short vowel sounds. They are using Elkonin boxes and letter tiles for phonemegrapheme correspondences.  Students then apply their knowledge to an accountable text (a decodable reader) that has CVC short vowel words as well as learned HFW.	The teacher is utilizing shared reading as an instructional method. For the initial read, students are invited to join in, but the teacher volume is the loudest and the teacher is reading with appropriate pacing and prosody. During the next read, the students will echo read. During the third read, they will all choral read the text. For the last read, the students will read the text for the last read, the students will read the text independently as a class.	The teacher is having students blend initial, medial and final phonemes together to produce single-syllable words. The teacher is guiding students through correct articulation of the individual phonemes when necessary. Students are using Phoneme Counting Beads to support this work.
The teacher is saying word pairs and asking students to listen carefully to the sounds within the words. The students are to give a thumbs up if the words rhyme and a thumbs down if the words do not rhyme.	Students are exploring different texts and analyzing themes. The teacher is supporting groups in collaborative discussions. The teacher is charting the student responses for the whole class to have a running list of themes.	Students are working on encoding words from a phonics lesson. For each word students are hearing the word, saying the word, writing the word, and reading the word. The teacher is modeling how to reference resources around the room such as the alphabet frieze and the sound wall.	Words are on the board such as eruption, particles and volcanic.  There are also Spanish cognates listed such as erupción and partícula. The class is exploring the morphology of each word and then the teacher revisits a section of text from, "Volcano: Eruption and Healing of St.  Helens."