$\mathbf{X}\mathbf{X}$ Alaska's AVBOOK 21 A Practical Guide for Teaching Reading from the Alaska Department of Education & Early Development and Region 16 Comprehensive Center $\times \times \times \times$

ALASKA'S READING PLAYBOOK A Practical Guide for Teaching Reading



Alaska's Reading Playbook is a guide for educators teaching in Alaska's unique educational landscape.

This playbook combines decades of nationwide research with examples and resources developed by educators in our state. You'll find an introduction to phonological awareness, phonics, vocabulary, fluency, and comprehension, and we'll share links to valuable resources where you can continue to deepen your knowledge.

ACKNOWLEDGEMENTS

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Continue to deepen your learning with our references and video resource collection.

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Our classrooms and schools across the state of Alaska are situated on the customary traditional lands of Alaska's first peoples. We acknowledge and thank the generations of Alaska Native peoples from across the state for their continued work in taking care of the land and teaching the next generation of young people.

Alaska covers a landmass of 570,380 miles. Our state is more than twice as large as the next largest state, Texas, and yet according to the 2021 census, our population is less than 750,000.

We are home to 17 of the highest mountains in the United States. We are also home to the northernmost point in the United States (Point Barrow or *Nuvuk*), the easternmost (Pochnoi Point), as well as the westernmost (Amatignak Island). Both the land and the people of Alaska are unique.

Our children are representative of our diverse

communities. There are 227 federally recognized tribes in our state and at least 20 native languages spoken. Our demographics include significant percentages of children from Latino, Asian, African American, and Pacific Islander families. We are diverse!

Alaska may be the last frontier, but our state motto—"North to the Future"—is representative of what we want for our children.

The Alaska Reading Playbook was put together for educators in Alaska with input from Alaskan teachers. The purpose of the Alaska Reading Playbook is to provide clear, step-bystep examples of evidence-based instructional practices. Our unique educational landscape means that we need our own Alaskan playbook that includes both the science behind the strategies as well as specific teaching tools.

The strategies selected for inclusion are

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engaging and beneficial for our students. We consulted with educators who are well-versed in Native Alaskan language and culture so that we could tie the rich oral traditions of our Alaskan communities with what we know from research about the acquisition of literacy.

This playbook is organized by concept. There are sections for phonological awareness, phonics, comprehension, fluency, and vocabulary. In each section, you will find a synopsis of research on the topic and instructional strategies appropriate for prekindergarten through grade five. Where possible,we have included links to videos so that educators can see the practice in action. There is also an extensive reference section.

Our goal is to provide practical, proven methods to improve the reading outcomes of all of our learners.



PHONOLOGICAL AWARENESS The Foundation for Reading Skills

"Phonological Awareness (PA) is the foundation upon which the other reading skills are built. Simply stated, the definition of phonological awareness 'is the ability to notice the sound structure in words' (Kilpatrick, 2015). When students don't master PA, it can adversely affect their progress in the other essential reading components." The 95 Percent Group



1 | WHAT IS PHONOLOGICAL AWARENESS?

Learn more about phonological awareness from literacy expert Margie Gillis, Ed.D. Find the link to video 1 on page 51, and explore the rest of our video resources!

Phonological Awareness (PA) is an umbrella

term encompassing skills associated with the sound structure of language, including the ability to:

- Count the number of words in a sentence.
- Recognize syllables and count syllables within words.
- Understand onset-rime and rhyme.
- Identify the initial phoneme.
- Identify the medial phoneme.
- Identify the final phoneme.
- Segment sounds in a word.
- Blend phonemes into a word.
- Add phonemes to create a new word (If the word is tack, if I add an /s/ sound to the beginning the new word is stack.)
- Delete phonemes to create a new word (the word is fast, if I delete the /s/ sound, the word is fat.)

 Substitute phonemes to create a new word (The word is bat, if I change the /a/ sound to /i/ the word is bit.)

Why is phonological awareness important?

We know from an abundance of evidence collected over decades of research that phonological awareness—our ability to recognize speech sounds—directly impacts our ability to read (National Reading Panel, 2000; Jager Adams, 1994). Although phonological awareness can be developed at any age and in any language, early development of phonological awareness has an overwhelmingly positive effect on students and their educational trajectory.

While the skills associated with phonological awareness are critically important, less important is the language in which they are practiced. This is particularly significant in Alaska, where a wide variety of Native and world languages are spoken (Umansky et al., 2021). Nearly a quarter of Alaskan students are considered Native Alaskans, and roughly 20 Alaska Native languages (Alaska Stat. § 44.12.310) remain from four major language families: Aleut, Tsimshianic, Haida, and Athabancan–Eyak–Tlingit (Krauss, 2007).

Whether you practice counting words in a sentence in Aleut or English, you are learning the concept of word boundaries and meeting the same goals. If your school or district has a bilingual program or a heritage language program, consider practicing with both languages to ensure students learn the concept being taught.

Linguists use the terms "opaque" and "transparent" or "shallow" to describe languages. An opaque language is a language where the sound-symbol correspondence is complex. In turn, sounds and symbols are often a one-to-one correspondence in a transparent or shallow language. English is an opaque language, meaning the same sound can be spelled in several ways. For example, the /j/ sound in English is spelled with a j in the beginning of a word (jump) or middle of a word (enjoy) but with a dge at the end of the word, as in edge, bridge, and lodge.

While English is complex, it is also consistent. Approximately 85% of English words are easily decodable if you know the pattern. Spelling changes such as the /j/ sound have to do with the position of the word, which is why an understanding of the sound structure of English and the ability to manipulate sounds are important for both reading and spelling.

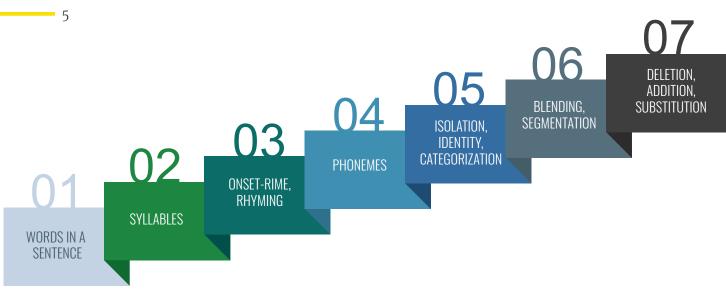


2 | 44 PHONEMES

Learn more from Yvette Manns, Rollins Center K–3rd Grade Facilitator.

When we think of letters that represent more than one sound, we automatically think of English vowels (a, e, i, o, u) which each have at least two sounds. Another example of complex sound-symbol correspondence is the /v/ sound. /v/ is spelled with a "v" at the beginning or middle of a word, but "ve" at the end of a word. English words don't end in "v."

In contrast, Alaska Native languages are transparent or shallow, meaning the soundsymbol correspondence is consistent regardless of the position of letters within words. This consistency makes Alaska Native languages ideal for teaching reading; most students will be able to learn to read and spell more quickly in Alaska Native languages than in English. If the opportunity exists within your community for students to learn phonological awareness in their Native language, take advantage of it. The learning target remains the same regardless of the language we are using to teach phonological awareness: we want students to



The Phonological Awareness Continuum. Steps move from simple (words in a sentence) to complex (deletion, addition, substitution). The three final steps are part of phonemic awareness.

be able to hear the sounds within words.

When do we teach phonological awareness?

The awareness of the sounds within language can be taught in early childhood. Just as children learn to build with blocks or sort manipulatives by color, we want students to play with language. Nursery rhymes, songs with a pattern or that play with changing sounds, should be introduced early and reinforced often. But this instruction remains every bit as important throughout adolescence as it is in early childhood: recent research suggests that the core deficit for older struggling readers and spellers is still phonological awareness (Kilpatrick, 2015). Older students still benefit from phonological awareness instruction. Phonological awareness is a continuum, which mean that skills progress from simple to complex as students increase their phonological awareness.

How do we teach phonological awareness?

Phonological awareness requires us to use our auditory processing skills. Students strengthening their phonological awareness must practice listening to and thinking about the sounds that they hear. This is often very tiring for young learners, who are just learning to read and spell, and older learners who have had trouble mastering sound-symbol correspondence. It's best to limit phonological awareness instruction to 10-minute sessions. But you don't need to limit yourself to just one session per day—use several bite-size sessions to model and practice different skills. You can even practice multiple skills in a single session! A meta-analysis of phonological awareness research (Bus et al., 1999) demonstrated that phonological awareness was most effective when combined with letter awareness. From a teaching standpoint, we can introduce the letter or group of letters that make each sound as we teach it.

Teaching Strategies

Counting Words in a Sentence: Establishing Word Boundaries

Have you ever listened to someone speak in a language totally foreign to you? If you have, you might have noticed that you couldn't really tell where one word ended and another began. You might be able to hear syllables or even individual phonemes but not be able to identify whether they were words or parts of words. The ability to recognize words as individual units of meaning is called *word consciousness* or *word boundaries*. For most students, word consciousness requires modeling and practice, because recalling new sounds or words can be difficult. You can help your students better understand and retain sounds and words by adding a physical component to your lessons, such as counters, magnets, or fingers to represent words or sounds. Word consciousness is an important skill for early learners.



3 | COUNTING WORDS IN SENTENCES: USING MAGNETS

Watch Dana Barrientos teach her students how to count words using magnets.

Read through the sample dialogue below and reflect on how you could practice establishing word boundaries with your students.

Teacher: "I am going to say a sentence and I want you to repeat that sentence."

Teacher: "Today is Tuesday." [*repeat*] "Today is Tuesday. Your turn!"

Students: "Today is Tuesday."

Teacher: "We are going to say that sentence again, and this time I want you to use one counter for each word we hear in the sentence. Let's do it together."

Teacher and students: "Today is Tuesday."

Teacher: "How many counters did you move?" [*pause for student responses*] "Yes, three counters, let's say the words again and move our counters to be sure."

Teacher and students: "Today is Tuesday."

Start with short sentences of three to five words and gradually add words to increase the complexity. Once students are comfortable counting words in a sentence, we can then start to delete words. For example:

Teacher: "I am going to play with my friend after school." [*repeat*] "Your turn!"

Teacher and students: "I am going to play with my friend after school."

Teacher: "How many words in our sentence?" [*pause for student responses*] "Yes, there are ten words. Let's say it and touch our counters again to check."

Teacher and students: "I am going to play with my friend after school."

Teacher: "Okay, let's say our sentence again but leave out 'after school.' Let's do it together!"

Teacher and students: "I am going to play with my friend."

Teacher: "How many words are in our sentence?" [*pause for student responses*] "Yes, there are eight words. Let's do it again. This time, let's leave off 'with my friend.'"

Teacher and students: "I am going to play."

Teacher: How many words are in our new sentence? Yes, five! Great job!"

If you work with older students or have already practiced this skill through teacher-directed strategies, you can incorporate strategies where students:

- Generate sentences on their own or in pairs
- Listen for the same sentence in a song and move the counters when they hear that sentence

Counting Syllables in Words

Just like we want students to be able to identify word boundaries, we also want them to learn to identify individual syllables within words. Are you struggling to find good examples for your class? One of the best ways to start practicing syllable counting is by using compound words that originate from two single-syllable words, because the syllable division is more obvious than with most other English words. Try these words: playground, flashlight, cupcake, raincoat, weekend, upstairs, popcorn, football. In each of these words, the breaks between syllables are easier to understand because each syllable corresponds to another English word with a specific meaning.

Young learners are still developing their auditory processing skills. Students do best when spoken examples are combined with movement (e.g., chopping, clapping, tapping) or counters. Once students are comfortable counting syllables with compound words, we build their abilities with progressively more complex and challenging words through modeling and explicit teaching. By adopting an "I do, we do, you do" approach with your students, you can scaffold their learning and build their confidence and independence.



4 | READING ROCKETS: SYLLABLE GAMES

Explore syllable games from Reading Rockets and watch students drum out syllables.

When students become proficient, they can also play games where they mix up the syllables to make new words and learn to play with language. Students' reading and spelling skills often improve when they receive instruction in counting syllables, because they're better able to decode or spell unfamiliar words one syllable at a time.

Rhyme

Generally, we think of *rhyme* as words that can be grouped together by a common sound

pattern at the end of a set of words. Rhyme is especially popular in children's books, poetry, and song. Many English-speaking adults still remember the nursery rhymes of their childhood—who could forget, after all, Humpty Dumpty's great fall? In English and some other languages, learning rhyme strengthens both reading and spelling, as it helps children recognize and establish familiar patterns between words. Unlike in English, rhyming is not an important skill for subsequent reading and spelling growth in Alaska Native languages. For students that speak languages other than English at home, rhyme may be a very new concept. While it is helpful when learning English patterns, students' inability to rhyme should not prevent you from teaching them other higher-level skills such as identification, segmenting, and blending.

We can teach rhyme incidentally by exaggerating the words that rhyme when we are reading or singing. There are a lot of children's books that use rhyming words, such as *Llama*, *Llama*, *Red Pajama*, *Moose on the Loose*, *Giraffes Don't Dance*, and *Chicka*, *Chicka*, *Boom*, *Boom*. When we are reading to students, we can make it a point to stop and bring the "rhyme" to their attention. For example, "Jeep, sheep, do they rhyme?"

We can also teach rhyme specifically by playing games. We can scaffold their learning by identifying words that rhyme before moving to more complex skills. Start with easy-to recognize-pairs. Ask your students: "Fun, sun, do they rhyme?" When students gain some proficiency, start playing "odd word out." Ask your students: "Jump, slump, slide: which word doesn't rhyme?" Generating rhyming words is more difficult, but eventually we want the students to be able to make up their own rhymes. The words they generate do not have to be real words, because the goal is to learn the concept words that end with same sound pattern.

Most comprehensive reading programs include activities to practice rhyming. Children's books

and oral storytelling are also great resources.



5 | IDEAS FOR TEACHING RHYMING: SMILEY WILEY Watch P.J. Auchterlonie use Smiley Wiley and Sad Sarah to help students decide whether words rhyme.

Onset-rime

Onset is a term we use to describe the first sound or phoneme in a word. Rime refers to the rest of the word that has the same sound pattern. While the concept is easy for most students to grasp, the definition is a bit academic for young learners. The best way to teach onset-rime is by modeling.



6 | READING ROCKETS: RHYMING GAMES

Explore rhyming games and watch students explore rhyming with "What Object Rhymes with This Picture?"

Phonemic Awareness

Phonological awareness is the umbrella term that includes all the skills associated with manipulating words and sounds (word boundaries, rhyming, counting syllables, and so on). Phonemic awareness is the term used to describe the ability to recognize individual speech sounds, known as phonemes. There is a difference between spoken language and written language, especially in English. Phonemic awareness is critical to subsequent reading success. English has 26 letters but 44 phonemes. Each of the 44 phonemes is written by using one or more letters, which are referred to as graphemes. Simply put, a *grapheme* is one or more letters that represent one sound. For example, the letter group tch represents the sound /ch/, while dge represents the sound /j/.

While we want to teach all the names of letters and the associated sounds, we also want to make sure that while we are teaching phonemic awareness. Through phonemic awareness, we should expand students' knowledge to include all the phonemes in English and their corresponding graphemes, depending on reading (grade) level.



7 | LETTERS VS. PHONEMES Dr. Louisa Moats explains the importance of differentiating between letters and sounds.

Recognizing initial sounds (onset)

When teaching phonemic awareness, we should start with the simplest phonemes and build to the most complex. Initial phonemes are the easiest to identify. Another term for the initial phoneme or sound is *onset*. When we work on onset-rime, we can model that the only thing that changes in the riming pattern is the first sound.

Children seem to naturally enjoy *alliteration*, words that start with the same initial sound. Children's books again are a great way to teach initial sounds. Books like *Mouse Mess* or *Lily's Purple Purse* are great ways to bring students' awareness to the same initial sound.

We can use pictures, identify the object (or have children identify the object) and exaggerate the initial sound. For example, using a picture of a mitten, have your students say the word *mitten* and then exaggerate the "m" sound. Ask your students: "What is the first sound in mitten?"

Even just using the classroom environment offers lots of opportunities. What is the first sound in *book*? What is the first sound in *paper*? What is the first sound in *desk*? What is the first sound in *lunch*?

Recognizing final sounds

Initial sounds are the easiest phonemes to recognize, while final sounds are a bit harder and medial sounds are the most difficult. Part of the reason that students may struggle with recognizing final or medial phonemes in spoken English is that we often do not articulate these sounds. Nevertheless, students to be able to hear and then later read and spell all the sounds in words to become proficient readers and spellers.

After your students have mastered initial sounds, begin practicing recognizing final sounds. Exaggerate the final sound in words to help your students identify them. Students also benefit from physical cues to help anchor sounds. Heggerty Phonemic Awareness, for example, uses "Punch it Up" as a physical anchor in their curriculum. You can create your own physical cues or choose a physical cue that works for your students, like counters, marbles, or gestures. The most important thing is that students learn to focus on and identify the final sound in words.



8 | FINAL SOUNDS HAND MOTION

Watch Alisa demonstrate the final sounds hand motion

used in the Heggerty Phonemic Awareness Curriculum.

Recognizing medial sounds

Medial is the term linguists give to the middle sound in a syllable or word. In English words, a syllable is a word or part of a word with one vowel sound. Every syllable has a vowel. The challenge with this skill is that short vowel sounds are so similar. The sound for short /e/ and the short /i/ are similar. Some programs and teachers have found that giving students a mirror so that they can see the different position of the mouth helps students differentiate between the two. Another strategy is a mnemonic device—"/e/ makes you grin, /i/ drops your chin."

Just as with initial and final sounds, exaggeration and physical anchors are useful tools for practicing identification of medial sounds. In the Heggerty Phonemic Awareness program, students use a roller coaster motion when they hear the medial sound. Other programs have students raise their hand or turn over their hand each time they hear the medial sound. Ultimately, the goal is for students to identify the medial sound.



9 | ISOLATING MEDIAL SOUND Watch Mrs. Dare explain how she teaches her students to isolate medial sounds.

Phoneme segmentation

All of these identification activities are designed to teach students how to segment the sounds we hear in words. Phoneme segmentation is the ability to hear a word or syllable and break it into individual speech sounds. Students do not have to know how to either read or spell the word to be able to learn phoneme segmentation. The ability to segment sounds will help them any time they approach a new word while reading, and it is especially helpful in teaching spelling.

Named after their creator, Russian psychologist D.B. Elkonin, Elkonin boxes build phonemic awareness skills. Children listen to words and move a token into a box for each sound or phoneme they hear, thereby segmenting words into individual phonemes. You can use the same color of tokens for all sounds or work with two colors to have your students practice differentiating between consonants and vowels. The goal is to have students recognize and segment the sounds they hear in the word or syllable.



10 | PHONEMIC SEGMENTATION

Dr. Louisa Moats shares techniques for identifying individual sounds with a kindergarten teacher.

Start with short consonant-vowel-consonant words and build to longer words that include four or five phonemes. There are a variety of alternatives to Elkonin boxes. Students can use gestures to delineate between sounds (e.g., chopping the sounds they hear), tap out the sounds, or use magnets on a board, among other alternatives.

Blending

Blending is also critically important for reading and spelling. We take the sounds apart when we segment, and we blend sounds when we put them together. We can do both segmenting and blending activities in the same session.

The website **Reading Rockets** offers a number of games designed to reinforce segmenting and

blending. Some of the games include:

- **Guess the Word**: The teacher exaggerates each sound in a word and the students blend the sounds together to guess the new word.
- **Robot Talk**: The teacher uses a "robot voice" to say each sound, and the students put the sounds together to make a word.
- **Blending Slide**: The teacher pretends to have a slide, and the students slide the sounds together to make a new word.

Another strategy children enjoy is **stretch it/ shrink it**. You'll need a piece of elastic or a large rubber band for this activity. Students pull on the elastic or rubber band as they stretch (segment) the sounds they hear. When they blend the sounds into a word, they release the elastic and it shrinks.



11 | DRIVE-THRU BLENDING IN KINDERGARTEN Watch students practice early decoding skills.

Manipulation of phonemes

The most advanced skill within phonological awareness is the ability to manipulate sounds by adding, deleting, or substituting phonemes. In his book, *Essentials of Assessing, Preventing, and Overcoming Reading Difficulties* (2015), David Kilpatrick makes the case that older struggling readers still have difficulty with phonological awareness, specifically the manipulation of phonemes and syllables.

Most early reading programs emphasize phonemic identification, segmenting, and blending, but they do not always go far enough with manipulation. In most curricula, phonological and phonemic awareness start to disappear by the end of second grade. And yet the ability to manipulate—add, delete, and substitute—phonemes increases our ability to decode unfamiliar words and certainly makes spelling easier. We can only hold the spelling of just so many words in our working memory. But if we understand the orthographic patterns, we can use that same word or syllable to build hundreds more.

Adding phonemes

Of the three skills, adding phonemes is the easiest. We take students from the known to the unknown, so beginning with adding phonemes is the easiest. A sample instructional routine might look like this:

Teacher: "I will say a word or part of a word, you will repeat the word. Then we add a sound at the beginning of the word to make a new word."

Teacher: "Say 'ink."

Students: "Ink."

Teacher: "If we add the /s/ sound to the start of the word, what new word do we have?"

Students: "Sink!"

Start with sounds at the beginning of the word because those are the easiest to add. You can use any group of words for this activity. Just remove the first phoneme and say the rest of the word. Repeat the same instructional routing: "If we add ____ to the word, the new word is...?"

We can then add phonemes to the end of the word. Add the suffix "s" or "ing" is often easy for students.

Teacher: "I will say a word or part of a word, and you will repeat the word. Then, we will add a sound at the end of the word to make a new word."

Teacher: "Say 'rain."

Students: "Rain."

Teacher: "If we add 'ing' to the end of the word, what word do we have?"

Students: "Raining!"

In one session, try to practice adding a phoneme or syllable to the beginning of five or six words and to the end of a few words.

It's more challenging for students to add phonemes to the medial position within a syllable or word. The way you practice adding phonemes to the middle of a word will be similar to adding phonemes to the beginning or end, but you may need to allow for some extra think time when your students first begin learning this skill.

Teacher: "Say 'bank.'"

Students: "Bank."

Teacher: "If we add the /l/ sound after the /b/, what is the new word?"

Student: "Blank."

If you are working with older students, you might try the same instructional routine using syllables instead of phonemes. It works well with all types of words, especially multi– syllabic words. The instructional routine could look something like:

Teacher: "Say 'ology.'"

Students: "Ology."

Teacher: "If we add 'bio-' to the beginning of the word, what word do we have?"

Students: "Biology."

Then, practice incorporating an additional ending syllable:

Teacher: "Say 'manipulate.'"

Students: "Manipulate."

Teacher: "If we add '-tion' to the end of the word, what is the new word?"

Students: "Manipulation."

As more experienced readers, we automatically see the word in our mind and add the phoneme or syllable. Young learners do not. Adding a physical anchor can help students retain the sounds. For example, you can hold up one hand for the word or syllable, then slide the other hand up next to it to indicate you are adding something to the beginning of the word. Alternatively, you could use tokens, markers, or manipulatives to help the students hold the sounds in memory.

Deleting phonemes

Good readers are flexible. When they learn one word, it opens the possibility of learning many new words by just adding or deleting phonemes. We want to teach students to delete phonemes (or syllables) from the beginning, end, or middle of a word. **A note of caution**: we can and should have students delete phonemes from consonant blends, (e.g., sl, tr, sk, pr) but not digraphs. A digraph is two or more letters that make one sound (e.g., sh, th, tch, dge). Blends can be unblended, but digraphs cannot.



12 | CUT OFF THE SOUND, WORD ON THE CURVE

Meredith Liben shares a call-and-response game.

An instructional routine might look like:

Teacher: "When we hear whole words, we can take away a sound and make a new word. Say 'broom.'"

Students: "Broom."

Teacher: "If we take away the /b/ sound, what word do we have?"

Students: "Room!"

By reversing the hand motion we made when adding phonemes, we can add a physical anchor to show we are deleting a sound. Hold up both hands while saying "broom," and then pull one hand away while you way "take away." We can also delete final phonemes and make new words. The instructional routine might be:

Teacher: When we hear whole words, we can take away a sound and make a new word. Say "lamp."

Students: "Lamp."

Teacher: "If we take away the /p/ sound, what word do we have?"

Students: "Lamb."

Following the same sequence—initial, final, medial—we can teach students to make new words by deleting a phoneme from the medial position.

Teacher: "When we hear whole words, we can take away a sound and make a new word. Say 'frog.'"

Students: "Frog!"

Teacher: "If we take away the /r/ sound, what word do we have?"

Students: "Fog."

For older students, we can focus on the same foundational skill but with higher-level vocabulary. For example:

Teacher: "When we hear whole words, we can take away a syllable and make a new word. Say 'uncovering.'"

Students: "Uncovering."

Teacher: "If we take away the un-, what word do we have?"

Student: "Covering!"

Another example might sound like:

Teacher: "When we hear whole words, we can take away a syllable and make a new word. Say 'parallelogram.'"

Students: "Parallelogram."

Teacher: "If we take away the –gram, what do we have left?"

Student: "Parallelo."

Teacher: "If we take away the -o, what word

do we have?"

Student: "Parallel!"

Substitution

The most advanced manipulation skill is substitution. We can teach students to substitute both phonemes and syllables. When we substitute, we are switching one phoneme or syllable for a different sound. For example, we can switch the /l/ sound in *lock* to /s/ and have *sock*. Then, we can switch the /o/ sound in *sock* to /i/ and have *sick*, and the /k/ sound to /t/ and have *sit*. We can do the same thing with syllables. With our students, this might look something like:

Teacher: "The word is 'delighted.'"

Students: "Delighted."

Teacher: "Change the 'ed' to 'ful.'"

Students: "Delightful."



13 | MIX IT UP Meredith Liben shares a new activity to help students put all their skills together.

For our younger students, phonological awareness activities should be part of every literacy experience and done frequently during the day in short segments. Teachers of students in grade 2 and beyond often find it difficult to fit phonological awareness into the school day. If that's true in your classroom, consider incorporating phonological and phonemic awareness activities as a warm-up for spelling or as part of your vocabulary instruction.

You don't always need specialized materials or an additional program: you can take any group of words and have students segment, add, delete, or change sounds.



PHONICS Sounds and Symbols and Syllables (Oh My!)

English is an alphabetic language. In other words, letters or groups of letters represent the sounds of spoken language. As we learned in the **Phonological Awareness** chapter (pp. 3–13), the 44 sounds in English are called phonemes. A phoneme is the smallest unit of sound in a language. Our 44 phonemes are expressed in written language as graphemes. While in some languages there is a one-to-one correspondence between sounds and letters, such is not the case in English.

Are phonemes the same across languages?

Phonemes vary widely between languages, even when they're part of the same language family. Spanish, a member of the Romance branch of the Indo-European family, has a larger alphabet than English but uses only 24 phonemes. Both English and Spanish pale in comparison to the sonoric diversity of Taa: this Southern African language uses around 200 sounds! The English language has just 26 letters, so 44 graphemes—letters or groups of letters— are used to represent our 44 phonemes. In addition to teaching students the most frequent sound each letter makes, we also need to teach the most common graphemes that represent each sound. Another term used by some educators is *phonogram*. According to Denise Eide (2012) in *Uncovering the Logic of English*, we should teach children each of the 75 basic phonograms. English spelling and pronunciation change depending on the position of the sound, the history or origin of the word, and the part of speech employed.

The good news is that we don't expect students to master the spelling of each of the 44 phonemes and their corresponding graphemes all at once. Phonics proficiency is a gradual process. In pre-kindergarten and kindergarten, we want students to learn phonological awareness and letter names. We can also teach them the difference between a vowel sound and a consonant sound.

a	been	down	have	is	more	other	that	to	when
about	but	each	he	it	my	out	the	two	which
all	by	find	her	its	no	part	their	up	who
am	called	first	him	like	not	people	them	use	will
an	can	for	his	long	now	said	then	was	with
and	come	from	how	look	number	see	there	water	words
are	could	get	Ι	made	of	she	these	way	would
as	day	go	if	make	on	so	they	we	write
at	did	had	in	many	one	some	this	were	you
be	do	has	into	may	or	than	time	what	your

Fry's First 100 Sight Words. Developed by Dr. Edward Fry, this method of teaching sight words focuses on prioritizing the most common words in the English language. The first 100 words make up approximately 50% of all text.

You might explain this to your students in terms of "open" and "closed": vowels open the mouth, while consonants partially or fully *close* the mouth. At this stage, students may also begin to master one-syllable consonantvowel-consonant (CVC) words like cat, run, dot, sit, or let, and a few sight words (*see above*). Sight words help jumpstart reading for young learners because they appear so frequently in text. When sight words are taught in conjunction with phonics, we build a solid foundation for reading.

Why go through the trouble of teaching phonics?

The research is clear: explicitly teaching students the structure of English accelerates reading proficiency (NRP, 2000). In their meta-analysis of 1,373 studies between 1970 and 1999, the National Reading Panel concluded that systematic phonics instruction produces significant benefits for students in kindergarten through grade 6 and for children having difficulty learning to read (2000).

Other conclusions of this report include:

 Phonics instruction has a positive overall effect on reading and can benefit all students.

- Phonics instruction has positive overall effects on specific skill areas including decoding, spelling, reading orally, and comprehending text.
- Phonics instruction has a lasting impact on reading. It should always be connected to reading and writing practice.
- Phonics instruction is best when it is explicit and systematic, done early, and done well.
- Phonics and spelling instruction are interrelated processes, and instruction should be linked.

These conclusions are supported by the Institute of Educational Science's Foundational Skills to Support Reading for Understanding in Kindergarten Through Third Grade (2016). Of the four recommendations the IES team shares in the practice guide, the two recommendations centered on phonics and phonological awareness had the strongest evidence of positive results (p. 3). Specifically, "teach[ing] students to decode words, analyze word parts, and write and recognize words" and "develop[ing] awareness of the segments of sounds in speech and how they link to letters" (p.3) should be implemented throughout instruction in grades K-3, depending on student reading level (p. 4).

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While we associate phonics instruction with kindergarten through second grade, phonics can continue beyond the early grades with less common patterns, as well as syllabication, prefixes, suffixes, and common Greek and Latin roots. When we teach prefixes, suffixes, and roots, we teach both phonics and morphology. *Morphology* is the study of morphemes, and a morpheme is the smallest unit of meaning in a word. For example, the word salamander has one morpheme (a type of reptile), but the word unsuccessful has three morphemes:

- 1. the prefix un–, meaning "not,"
- 2. the word success, and
- 3. the suffix –ful, meaning "to be filled with something."

We start teaching morphology in the primary grades when we introduce that *-s* means plural, *-*ing means happening now, and *-ed* means happened in the past.

The NRP report concluded that systematic instruction in phonics was superior to other teaching methods (2000). A systematic approach is sequential: high-utility consonants should be taught first, and vowels with similar sounds should be separated. Systematic instruction is planned and follows a specific scope and sequence.

How should we teach phonics?

A systematic approach follows a sequence of instruction. Most comprehensive reading programs have a specific scope and sequence teachers can follow, which is often referred to as a pacing guide. A systematic approach requires an instructional design that takes students from simple to the complex concepts. For example:

- Teach short-vowel sounds (in VC and CVC words) before long vowel sounds (in CVVC and CVCe words).
- Teach consonants and short vowels in combination so words can be generated as

early as possible.

- Be sure the consonants taught early are continuous consonants, such as /f/, /l/, /m/, /n/, /r/, and /s/. These consonant sounds can be stretched, or sustained, without distortion and make it easier to blend words.
- Use a sequence in which the most words can be generated. Teach high-utility letters such as m, s, and t before lower-utility letters such as x or z.
- Progress from simple to more complex sound-spellings. For example, single consonants should be taught before consonant blends and digraphs. Likewise, short vowels should be taught before long vowels, variant vowels, and diphthongs.
- Separate visually and auditorily confusing letters and sounds (e.g., m/n, e/i, b/d) in the instructional sequence.



Most comprehensive programs use sound/ spelling cards (*see above*). The card includes both the phoneme and the possible spellings (graphemes) of the phoneme.

Many programs will also provide a specific instructional routine to introduce the sound/

spelling card. In the *Wonders* curriculum, the instructional the routine is:



Teacher: "Today we will learn a new soundspelling. This is the Ss sound/spelling card. The sound is /s/. The /s/ sound is spelled with the letter s."

"Say it with me: /s/. This is the sound at the beginning of the word sun."

[Point to picture on the card.]

"Watch as I write the letter s. I will say the sound /s/ as I write the letter" (McGraw Hill Education, 2017).

Guided Practice

Have students practice connecting the sound and spelling through writing.

Teacher: "Now do it with me. Say /s/ as I write the letter. This time, write the letter s five times as you say the /s/ sound."

Many programs include pictures and instructions for producing the phoneme. Most native English speakers have heard and produced each of our 44 phonemes, but learners of English as a second language may need additional time and explanation to grasp certain English phonemes. Regardless of native language, many young children have articulation issues. It is common for young learners to have difficulty producing the /s/ and /f/ sounds. They may also misarticulate final phonemes (i.e., drop the last sound).

Sound Walls

We can help young learners organize and reinforce their learning by incorporating visuals, teaching the process of making sounds, and categorizing phonemes into vowels and consonants. In combination with sound/spelling cards, these tools and approaches help students learn more about the phonemes and the corresponding spellings for each sound.

Learning the difference between vowel and consonant sounds helps facilitate reading. Vowels open the mouth and vowel sounds are all voiced, which mean your vocal cords vibrate.

Try it out! Put your fingers on your vocal cords and pronounce the short vowel sounds (a, e, i, o, u) and then the long vowel sounds. You should feel your vocal cords vibrate. Every syllable has one vowel sound.

Consonants close your mouth, and the sound is blocked by the tongue, teeth, or lips.

Try it out! Say the letters m, l, and t. When you say the /m/ sound, your lips close. When you say the /l/ sound, your tongue touches the roof of your mouth. If you say the /t/ sound your teeth are closed. Matching the phoneme with the letter or grapheme is the first step in understanding phonics.



You can use sound/spelling cards and pictures of mouth shapes to create a "Vowel Valley" (as *above* and in Moats, p. 27). If you follow the Vowel Valley from the upper left to the center and then to the upper right, you see not only the letter, but a picture of a mouth making that sound. Pictures show the contrast between vowel sounds: when you pronounce the /i/ sound as in *itch*, your mouth is barely open and forms a slight grin. When you make the /o/ sound as in *octopus*, your mouth is open wider and makes a loose o shape.



1 | SOUND WALLS AND PHONEMES

Dr. Mary Dahlgren explains the importance of understanding how the mouth forms to create vowels.

We can also categorize consonants by mouth shape. When we make a consonant sound, the sound is blocked or partially blocked by the tongue, teeth, or lips. The following categories are a great way to organize your consonant sound/spelling cards:

- **Stops**: The phonemes /t/, /p/, /b/, /g/, /d/, and /k/ are all short, stopped sounds.
- **Nasals**: The phonemes /m/, /n/, and /ng/ incorporate our nose.
- Fricatives: The phonemes /f/, /v/, /s/, /z/, /zh/, voiced /th/, unvoiced /th/, /h/, and /sh/ are fricatives. Fricatives are created by constricting the vocal cords, causing friction as the air passes through it.
- Affricates: The phonemes spelled *ch* or *j* are affricate sounds. The affricate sounds begin by fully stopping the air from leaving the vocal tract but then release the sound through a constricted opening. Try saying and feeling these sounds.
- **Glides**: There are also glide sounds like /y/, /wh/, and /w/ and liquids like /r/ and /l/.

Do your students need to know the linguistic terminology for the types of phonemes? *Probably not*—but as educators, knowing the names of each category helps us to better understand and explain how phonemes sound and are spelled.

Six Types of Syllables

From there we can start introducing students to syllable types. In English, we have six types

of syllables: open, closed, vowel-consonant-e, r-controlled, vowel teams, and consonant-le.

- 1. An open syllable ends in a vowel and long vowel sound. Words like hi, she, and go, are all open syllables.
- 2. A closed syllable has one vowel followed by one or more consonants. The vowel is short. Words like hop, kick, and fast are all closed syllables.
- 3. A vowel-consonant-e syllable has a vowel followed by a consonant and then an e. The vowel is long, and the e is silent. Words such as rope, tame, like, and bake are all vowel-consonant-e syllables.
- 4. An r-controlled syllable has one vowel followed by an r. The vowel is neither long nor short, because the r distorts the sound. Examples of vowel-r syllables include number, stir, start, fur, and nor.
- 5. A vowel team syllable has a vowel with another letter or letters that make one vowel sound. Some vowel teams are vowel digraphs such as ea, oo, ie, and au. Others are diphthongs like ou, ow, oi, and oy. And some have a vowel followed by consonants that all together make a vowel sound: igh, aigh, augh, eigh, and ough.
- 6. A consonant-le is a syllable that has one vowel, followed by a consonant + le. Examples include bugle, rumble, ankle, noble, able, and puzzle. Some teachers prefer to use the term final stable syllable. While the spelling is unusual, it is always at the end and is consistent. In addition to consonant-le, final stable syllables explain syllables such as tion, ure, and ious, as in nation, architecture, and precious.

Teachers should follow this specific sequence of syllable introduction. Once you have introduced closed syllables, you can start using a blending board. You can also have students use letter cards to blend words. Many programs come with small letter cards that the students can manipulate to make words.



2 | CLOSED AND OPEN SYLLABLES Find out how vowels should sound in words.



3 | DRIVE-THRU BLENDING IN KINDERGARTEN Watch students practice early decoding skills.

If you don't have enough sets for your classroom, you can use index cards stored on a ring. No matter which tool you use, the idea is for students to get lots of practice substituting one letter for another to build new words.



4 | MAP A WORD

Watch a mother help her son spell and read words with different letter-sound combinations.

A blending board is used in many comprehensive programs. Once students are more comfortable with blending, you can add more words to the blending board and use the activity for guided practice.

One technique that is particularly effective for older students is the blending wheel (Lane, 2015, pp. 86–92). Students start from the middle with a consonant, move to the second wheel to find a vowel, and select another consonant from the outer wheel. It works well for practicing building fluency at the word level and encourages students to be flexible.



Once students know the difference between open and closed syllables, you can have them practice by doing syllable sorts. You give students a list of words in random order and have them classify the syllables by type. For example, you could give students a list containing: *me*, *not*, *hi*, *so*, *she*, *it*, *cat*, and *nut* and have them sort them into open and closed syllables.

Open Syllables	Closed Syllables

Each time you introduce a type of syllable, add another column...

Open	Closed	VCe

...Until you eventually have all six types of syllables.

Open	Closed	VCe	Vr	V team	Cle

We want students to internalize the difference between the different syllables so that when they encounter longer, multi-syllabic words they can "chunk" them into syllables.

Syllable Division

One of the reasons teaching students the six types of syllables is so beneficial is because it helps them make the transition from reading single-syllable words to multi-syllabic words. If you recognize the syllable pattern, your brain perceives the "chunk."

For example, if you know the final stable syllable "ture," then when you see the word *capture* in print, your word knowledge lets you see "cap" (closed syllable so the vowel "a" is short) and final stable syllable "ture". Then you can read the word capture. No specific syllable division rule is needed.

One teaching strategy is to give students a list of multi-syllable words and have the students identify the types of syllables and then read the word. This activity can be done individually, in pairs, or a small group.

Common Syllable Division Patterns

The most common syllable division pattern is vowel-consonant-consonant-vowel (VC/CV). When you see that pattern—as in *mitten*, *tennis*, *number*, *contact*, and *picnic*—you divide between the consonants.

Another common pattern is vowel-consonantconsonant-consonant-vowel (VC/CCV). We usually see this pattern when there is a blend or a digraph, like in *inspect*, *explode*, and *district*. Divide between the first and second consonant.

When we are teaching syllable division, we need our students to sometimes be flexible. We use syllable division to decode words that are unfamiliar to us. Have them try one way (VC/ CV or VC/CCV) and ask themselves, "Is that a word I know?"

There are some words that don't follow that pattern, like laughter. To decode *laughter*, students need to know that it comprises a base word and a suffix. The goal isn't to memorize syllable division patterns, but to have a strategy for decoding unfamiliar words. When we see a word with a vowel-consonantvowel (VCV) pattern, we divide between the vowel and the consonant 75% of the time (V/ CV). The first syllable in *open*, *eject*, and *prevent* are all open syllables and the vowel is long. We divide after the consonant (VC/V) 25% of the time as in words like *cabin*, *comic*, and *polish*.

As we teach decoding of multisyllabic words, it is important to stress the goal is to be able to decode the word. Knowing the six syllable types and some basic syllable division patterns gives students a strategy.

Morphology

Morphology is the study of (-ology) morphemes (morph), and a morpheme is the smallest unit of meaning in a word. For example, the word *help* has one morpheme and means "to aid," while the word *helplessness* has three morphemes: *help* as in "to aid," consonant suffix *-less*, meaning "without," and consonant suffix *-ness*, meaning "quality of."

Because we can identify each unit of meaning, we can recognize that the word *helplessness* means "the quality of being without help." Teaching students common morphemes, prefixes, and suffixes helps students not only decode multisyllabic words but also enhance their vocabulary. If students recognize the prefix or the suffix, there is no need to do syllable division, as they will recognize –less and –ness as suffixes and then just need to read help.

In the **Vocabulary** section of the *Alaska Reading Playbook* (pp. 28–38), you will find a list of common morphemes, Greek and Latin roots, prefixes, and suffixes. We include morphology in the phonics section so that we can give students another strategy—box it. When you encounter an unfamiliar word, look to see if there is a prefix or a suffix, put a box around it, and see if you can read the rest of the word.

For example:

disobey

incorrect



misrepresenting invention

honestly successful reworking



FLUENCY The Role of Accuracy, Rate, and Expression

Reading fluency includes three observable and measurable skills: the ability to read accurately, to read at a rate that allows for adequate comprehension, and to read with expression. In reading research, reading with expression is sometimes referred to as *prosody*. Hasbrouck and Glaser (2012) define fluency as "reasonably accurate reading, at an appropriate rate, with suitable expression,that leads to accurate and deep comprehension and motivation to read" (p. 12).



1 | WHY FLUENCY IS A FOUNDATIONAL SKILL

Dr. Jan Hasbrouck discusses why fluency is necessary and critical for literacy skills.

What fluency does not mean is simply reading fast (International Literacy Association, 2018). The goal of teaching all foundational literacy skills is reading comprehension. Fluency is an important milestone, because it allows children to focus their energy on finding meaning. When a child spends more time on decoding, their energy is focused on the mechanics of reading.

Why is fluency important?

Many early literacy assessments measure fluency. On a surface level, when we give a child a passage and time their reading, it seems like all we are measuring is their ability to read accurately and quickly.

But in addition to measuring the number of words per minute they can read, we are also measuring complex processes such as orthographic segmentation and phonological coding. Early reading researchers David LaBerge and S. Jay Samuels emphasized the importance of early readers developing automaticity (1974). Their automaticity model encouraged other researchers to look at the relationship between oral reading fluency and comprehension (Fuchs, Fuchs, and Maxwell, 1988).

The correlation between oral reading fluency and comprehension is .91. In other words, we can accurately predict a student's ability to comprehend text based on their oral reading fluency rate.

Why teach fluency?

Like all the recommendations in the *Alaska Reading Playbook*, fluency instruction has a strong base of evidence to support its use in the classroom. Fluency instruction was one of the National Reading Panel's (NRP) recommendations (2000). Before identifying fluency instruction, the NRP identified 364 studies potentially relevant studies on the effects of guided oral reading instructional practices.

Of these, 16 studies met the NRP research methodology criteria and were included in a meta-analysis. The Panel concluded that guided repeated oral reading procedures that included guidance from teachers, peers, or parents had a significant and positive impact on word recognition, fluency, and comprehension across a range of grade levels. The studies were conducted in a variety of regular and special education settings.

What about students who can read fluently but still can't comprehend?

Oral reading fluency is a predictor of reading comprehension, but even if a child reads fluently, it does not automatically mean they will comprehend grade-level text.

We should first eliminate issues with fluency, phonics, or phonological awareness as the source of difficulty, but we should also look closely at their language abilities, their vocabulary, and their background knowledge.

Fluency is important, but so too are vocabulary

(see pp. 28–38) and language structure (grammar). Fluency is necessary but not sufficient for deep **comprehension** (see pp. 39–48).

The Three Components of Fluency

Accuracy

To become a fluent reader, a child must first be an accurate reader. Accuracy comes first. Repeated reading without guidance, may solidify misunderstanding. When it comes to early readers, the expression "Practice makes perfect" should instead be "Perfect practice makes perfect."

When students get to the passage stage, we often think it is time to begin fluency practice, but it starts much earlier. We can and *should* emphasize accuracy when teaching letter recognition and sound/symbol correspondence.

When children are dysfluent readers, the issue is often not fluency, but the underlying skill of word recognition. When a child struggles with fluency, we should first ensure that their phonics ability and phonological awareness skills are intact.

In some ways, fluency is an outcome, not an input. We read and write fluently when we have strongly established skills.

Rate

In 2005, Jan Hasbrouck and Gerald Tindal completed an extensive study of oral reading fluency. The results of the study were published in a technical report, "Oral Reading Fluency: 90 Years of Measurement."

Hasbrouck and Tindal fluency norms have been used by practitioners ever since, as both an assessment of reading ability (How well does the student read in relation to their peers?) and a monitoring instrument (Is the student making sufficient progress with the intervention?).

In 2017, Hasbrouck and Tindal published an

Update of Oral Reading Fluency (ORF) Norms, compiled from widely used, commercially available assessments (DIBELS, DIBELS Next, and easy CBM). The 2017 Reading Norms represent a far larger number of scores than the previous study; nearly 7 million scores across assessments and testing sessions were used to calculate norms at five percentile ranks (Hasbrouck & Tindal, 2017, p. 8).

The rates reflected in the 2017 study are, on average, four to 12 words correct per minute (WCPM) higher than in the 2006 study (p. 13), which may reflect both general trends and changes in the sample and sample size. The rates Hasbrouck and Tindal observed (2017, p. 10) are reproduced below.

Grade 1

%ile	Fall WCPM	Winter WCPM	Spring WCPM
90	-	97	116
75	-	59	91
50	-	29	60
25	-	16	34
10	-	9	18

Grade 2

%ile	Fall WCPM	Winter WCPM	Spring WCPM
90	111	131	148
75	84	109	124
50	50	84	100
25	36	59	72
10	25	35	43

Grade 3 (see next column)

%ile	Fall WCPM	Winter WCPM	Spring WCPM
90	134	161	166
75	104	137	139
50	83	97	112
25	59	79	91
10	40	62	63

Grade 4

%ile	Fall WCPM	Winter WCPM	Spring WCPM
90	153	168	184
75	125	143	160
50	94	120	133
25	75	95	105
10	60	71	83

Grade 5

%ile	Fall WCPM	Winter WCPM	Spring WCPM
90	179	183	195
75	153	160	169
50	121	133	146
25	87	109	119
10	64	84	102

Grade 6

%ile	Fall WCPM	Winter WCPM	Spring WCPM
90	185	195	204
75	159	166	173
50	132	145	146
25	112	116	122
10	89	91	91

Reading with Expression

A term you see frequently in fluency studies is *prosody*. Prosody means reading with expression, and prosodic reading is reading with correct phrasing and expression. It is more subtle than accuracy and rate and harder to quantify, so there isn't as much research around it.

But when a child is reading aloud, you can almost always predict if they understand the passage by their phrasing, their ability to recognize punctuation, and the inflection in their voice. In contrast, if a child stops to decode, ignores punctuation, or has a flat voice while reading, we also know they probably have not understood what they read.

From a teaching standpoint, we want students to sound like they're having a conversation when they're reading to us or their peers. And we can start it early by pointing out punctuation marks and modeling when we are reading to them.

Strategies for Building Fluency

Repeated Reading

Twenty years of research has identified repeated reading as a key instructional strategy for improving students' reading fluency (NICHD, 2000). The evidence behind repeated reading shows that the best way to implement repeated reading in the classroom is to:

- 1. Give students the opportunity to read and then re-read the same text, and
- 2. Have students practice their reading orally with an opportunity to receive feedback.

Early readers need daily practice. It may be difficult for you to listen to each child in your class, but it is important for them to practice. Other school personnel, families, and caregivers can all be very helpful in providing additional opportunities for young readers. When students are reading with us in the classroom environment, we should challenge them and give them text that is on or above their level. This allows us to take the opportunity to scaffold more complicated grammatical structures found in the language of books.

When we send books home with our students, we should help students select something they can read easily. A wise teacher once said, "It takes a lot of easy reading to make reading easy."



2 | REPEATED READING

Learn about the value of repeated reading from the Institute of Education Sciences.

Accuracy is the first step in fluency. While we want students to be able to read books, we need to start building fluency at the letter, word, and sentence levels.

Quickly identifying letters is fluency practice. We can begin to use alphabet phrases and add punctuation between letters (abc, def?, ghi,jkl!). Being able to read a word list is fluency practice. If you regularly use a blending board for phonics, have the students re-read the words several times during the session.

Reading sentences is also fluency practice. We can have students re-read sentences and make it sound like they're talking. All of these strategies can be done more than once, and they build students' confidence. Remember, accuracy first: pushing students to "read faster" too soon could cause some students to begin guessing or otherwise undermine their focus on reading carefully.

Readers Theater



3 | READERS' THEATER: 2ND GRADE

Observe an example of readers theater from Longfellow Elementary School.

Readers theater is a form of repeated reading that gives students purpose. They need to read and re-read a passage so they can perform it for an audience. In this video, the students are reading or performing for adults, but readers theater doesn't need to be a big production. Their classmates or other students in the school make a great audience.

While readers theater is usually done with narrative text (text that tells a story), it can also be done with expository (informational) text. Expository text gives students practice with their ability to present new learning.

Choral Reading

Choral reading is reading that is done together, like a chorus. The goal of reading instruction is to make it engaging and interactive. We want students to have as many opportunities to practice as they can during the school day.

In the past, teachers would call on one student at a time and that student might read a sentence, paragraph, or passage. And while that was practice for that one student, the rest of the students did not need to be engaged.

Rather than engaging with the text, the other students would try to figure out when they were going to be called on. Having one child read can also create anxiety for struggling students. No child wants to be embarrassed in front of their peers. Having students read as a chorus allows even less-than-proficient students to practice and it models for them what good reading should sound like.

Some teachers have found that they read along with the students to set the rate and to encourage reading with expression. When you're using choral reading, you can also employ echo reading. In echo reading, you read a portion and the students read the same piece right after you. It is a way of modeling what good reading sounds like.



4 | CHORAL READING

Teachers and experts demonstrate and discuss choral reading in this video from Reading Rockets.

Partner Reading

We can also have students practice reading to one another or, with our youngest students, to practice "pretend reading" to one another.

Teachers should start partner reading time with whole-group reminders of how to be a good partner: listen, keep your attention on your partner, share the book, and so on.

Students take turns reading to each other. The simplest partner read is alternating pages, but they can also echo read (stronger reader goes first) or practice a mini readers theater and act out the characters while they're reading.



5 | PARTNER READING Watch a demonstration of partner reading in action.

Tools for Assessing Fluency

While most of us may be familiar with the Hasbrouck and Tindal norms, they are based solely on rate. There are other ways to assess fluency.

The National Assessment of Educational Progress has developed a scale that may help with beginning readers, and Hudson, Lane, and Pullen (2005) have developed a checklist that provides more detail in terms of measuring a student's ability to read with expression (p. 707).

National Assessment of Educational Progress Fluency Scale



Fluent

Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation.



Fluent

Reads primarily in three- or fourword phrase groups. Some small groupings may be present; however, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.



Non-fluent

Reads primarily in two-word phrases with some three- or fourword groupings. Some word-byword reading may be present. Word groupings may seem awkward or unrelated to larger context of sentence or passage.

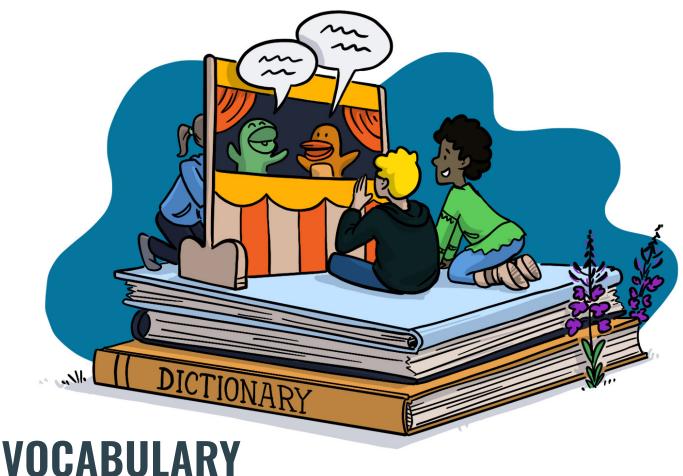


Non-fluent

Reads primarily word-by-word. Occasional two-word or threeword phrases may occur, but these are infrequent and/or they do not preserve meaningful syntax.

Hudson, Lane, & Pullen's Checklist

- □ Student placed vocal emphasis on appropriate words.
- Student's voice tone rose and fell at appropriate points in the text.
- Student's inflection reflected the punctuation in the text (e.g., voice tone rose near the end of a question.
- □ In narrative text with dialogue, student used appropriate vocal tone to represent characters' mental states, such as excitement, sadness, fear, or confidence.
- □ Student used punctuation to pause appropriately at phrase boundaries.
- □ Student used prepositional phrases to pause appropriately at phrase boundaries.
- ☐ Students used subject-verb divisions to pause appropriately at phrase boundaries.
- ☐ Students used conjunctions to pause appropriately at phrase boundaries.



Finding Meaning in the Words We Read

"All I know is what I have words for." Ludwig Wittgenstein

Ludwig Wittgenstein was an Austrian– British philosopher who wrote a great deal about the importance of words and language. Wittgenstein believed that the meaning of words is best understood when they're used within a specific situation. According to the *Oxford English Dictionary*, **vocabulary** is defined as "All the words a person knows or uses." And that is the challenge.

We can know a word at many different levels (spoken form, written form, conceptual meaning, role in sentences, association with other words, and so on), but it doesn't mean we can use it when speaking, reading, or writing. That is particularly true for many students in Alaska. As Louisa Moats famously said, "Children learn in the language in which they're loved." The desire to communicate with others is so ingrained in each of us that it seems children simply absorb language. We need to honor the language in which our students are loved. We must support the oral traditions, cultures, and communities of our students if we aim to support their learning.

And we must build on the rich language experiences our students bring to school to teach them the vocabulary of print. Sometimes it may feel like it is an either/or (I *either* support their oral tradition *or* I teach them the vocabulary of print) when it is a both/ and (I use their oral tradition to give them the vocabulary of print).

The vocabulary of print is different from the vocabulary of conversation. Some call the vocabulary of print *academic vocabulary*. Words like "therefore" and "however," or phrases such as "Once upon a time..." exist primarily in books and are not part of our everyday lexicon. Academic vocabulary may be unfamiliar to our students, yet they will need that vocabulary to comprehend increasingly difficult text as they go through school.

Why teach vocabulary?

The importance of vocabulary for reading comprehension has been recognized for almost 100 years. In 1925, the *National Society for Studies in Education Yearbook* included this quote:

"Growth in reading power means, therefore, continuous enriching and enlarging of the reading vocabulary and increasing the clarity of discrimination in appreciation of word values (Whipple, 1925)" (as qtd. in National Reading Panel, 2000)

Many studies, including those analyzed in the National Reading Panel's landmark report in 2000, have shown the relationship between vocabulary and comprehension. In 2012, the National Assessment of Educational Progress (NAEP) compared vocabulary scores and reading comprehension scores and found a tight correlation between vocabulary and comprehension. Students who scored high in comprehension also scored high on vocabulary.

Comprehension comes easily for students who come to school with a rich oral vocabulary, because they already know the meanings of many words before they're able to decode them in written text. In contrast, students who come to school with weak oral language often struggle with comprehension, because they need to both learn to decode and understand the meanings of the words they're decoding. This pattern is often termed the "Matthew Effect" in reading research—this biblical reference represents the concept that in reading comprehension, the "rich get richer and the poor get poorer."

If you sound out a word but you don't know the meaning of the word, you're less likely to understand what you're reading (Kamil and Hiebert, 2005). As such, "Oral vocabulary is a key to learning to make the transition from oral to written forms, whereas reading vocabulary is crucial to the comprehension of a skilled reader" (NRP, 2000). The impacts of the Matthew Effect are far-reaching: Cunningham and Stanovich (1997) found that first-grade oral vocabulary was predictive of eleventh-grade reading comprehension (as qtd. in Core Sourcebook, 2008, p. 414).

Many first graders have yet to learn to decode, but as that learning happens, 95 percent of students can read more words than they can define (Biemiller and Slonim, 2001). Without strong instruction, those early deficits in vocabulary become exaggerated.



1 | VOCABULARY AND COMPREHENSION

An expert panel discusses the importance of teaching vocabulary to young children.

In 2019, the Institute of Educational Science revised the practice guide "Foundational Skills to Support Reading for Understanding in Kindergarten Through 3rd Grade" to include the teaching of academic language skills, including the use of inferential and narrative language and vocabulary knowledge.

How do we teach vocabulary?

Implicit Instruction Starts at Home

When we teach vocabulary, we can imagine each new vocabulary word as a brick that'll help our students build their comprehension. When we teach words in context, we give children the mortar to hold those bricks together. And the earlier we develop a strong foundation, the better — one of the best ways to build vocabulary is through wide reading and lots of language exposure and experience in early childhood.



2 | THE IMPORTANCE OF BABY TALK

Dr. Pat Kuhl discusses the importance of baby talk in helping children develop their language skills.

In the Ted Talk "The Linguistic Genius of Babies," psychologist Patricia Kuhl demonstrates how infants are taking statistics about the language they hear. She contends that we enter life as citizens of the world, but from hearing specific sounds (phonemes) we begin to wire our brains towards specific linguistic patterns. Her research also demonstrates that *all* that baby talk parents and caregivers do pays off in terms of later vocabulary development. Infants are constantly acquiring language and honing their receptive language skills.

There is an overwhelming amount of research on the benefits of reading aloud to children.

Don't believe us? Google it. Our Englishlanguage search identified nearly one million references to the benefits of reading aloud to children.

Families can support their children's vocabulary development by implementing the Institute of Educational Science's recommendations for supporting reading skills at home. Specifically, the guide suggests that parents have conversations when they are reading with children. These conversations help develop higher-order thinking and language skills, such as problem-solving, predicting, and contrasting. It also suggests families and caregivers ask children questions while they're reading aloud, and that they talk to children about the content of the story before, during, and after reading.

Our role as educators is to inform parents of the great value in both talking to and reading to their children. We should also consider how we ensure all families have access to the materials they need.

Reading Connected Text

The Institute of Educational Science also recommends reading connected text (i.e., reading multiple phrases or sentences connected to one another). Connected text provides students with context for what they are reading and supports the development of phonological awareness, phonics, and vocabulary in conjunction rather than isolation. These types of strategies, by which we are not specifically teaching the meanings of words but understanding happens incidentally, are called implicit, incidental, or indirect teaching of vocabulary. In explicit or direct instruction, we intentionally teach the meanings of selected words.

Direct Instruction

Depending on the source you reference, the English language has anywhere between 615,000 to over a million words. Other Indo-European languages such as Spanish and French have approximately 100,000.

So why are there so many words in English? Part of it is historical. In one sense, English is a mosaic of different languages, as its speakers have adopted and incorporated words from the Anglo-Saxon, Latin, and Greek languages.

Our basic, everyday words often come from Anglo-Saxon. It is believed that the Anglo-Saxons pronounced each letter and that their language sounded somewhat like German, which might make it easier for young learners to spell words like enough. In about 1100 C.E., the Latin influence began to seep into what would eventually become the Modern English language. Most words having to do with contracts, law, military, and science came to us from Latin. They're often multi-syllabic and very decodable. During the Renaissance, words with Greek origins became part of English. Greek words often have to do with medicine, sports, education, and theater. Greek and Latin prefixes, stems, and suffixes are of great importance in modern English and are often used in the development of new terms (i.e., neologisms).

The diversity of words with similar or identical meaning in Modern English reflects a long history of borrowing and layering and a patchwork of word origins.

How do we decide which words we teach?

Isabel Beck is famous for her research on vocabulary development. In the second edition of her book *Bringing Words to Life* (Beck et al., 2013) she describes the tiers of vocabulary:

- Tier I words are the common, everyday words we use in conversation that usually don't require much instruction. This tier includes words like go, look, mine, dog, home, and school.
- Tier II words are words of high utility, that are seldom used in everyday conversation. While we may not use them in our personal communication, we encounter Tier II words often in text. This tier includes words like describe, identify, reflect, government, and furthermore.
- Tier III words are words we associate with a specific discipline or content area. In certain contexts, you might hear these terms referred to as *jargon*. Tier III words are usually only found in academic texts. Tier III words are best taught in context and within the specific content area. This tier includes words like photosynthesis, mitochondria, quadrant, parallelogram, doctrine, and annexation.

According to Beck, we should devote most of

our vocabulary instruction to Tier II words, because students will encounter them often in print and they cross content areas.



3 | VOCABULARY INSTRUCTION

Watch Dr. Isabel Beck describe what good vocabulary instruction looks like.

Instructional Strategies

Four-Part Word Processing

When we teach students a new word, we should help them learn it deeply, meaning they understand its:

- Pronunciation (phonological awareness)
- Spelling (orthographic awareness)
- Meaning
- Relationship to other words (i.e., what words to use with it)

Reading researchers have created a four-part processing model for word recognition. The model provides an explanation for the many complicated neurological processes that go into word recognition, which include phonological, orthographic, meaning processor, and context processor (Rayner et al., 2001).

The four-part processing model

- **Phonological processor**: Identification of sounds within the word
- **Orthographic processor**: Identification of letter names and letter patterns
- **Meaning processor**: Access the meaning of the word
- **Context processor**: Use of language to confirm the meaning

Each processor is responsible for a specific action, but they work together and support each other as we gain word knowledge. When we teach a new word, we need to give our students instructional opportunities to hear it, segment and blend it, write it, learn its definition, and get to know it in context.

Developing an Explicit Instructional Routine

Students need lots of repetition and many exposures to truly learn a word. Even in a short lesson, students should have dozens of opportunities to hear and use a new word in context. When you introduce a new word or set of words in your target vocabulary, model the meaning for your students.



4 | VOCABULARY INSTRUCTION - KINDERGARTEN

Watch how Anita Archer provides multiple opportunities for her students to interact with words.

Let's look at an example of how we could introduce vocabulary:

Teacher: "Our first word is invent. What is the word?"

Students: "Invent!"

Teacher: "Together, one more time. What's our new word?"

Teacher and students: "Invent!"

Teacher: "When someone makes something new, it's called an invention. A scientist might invent a cure for an illness or disease. You could invent the ending to a story."

Teacher: "You can invent something by putting two things together to make something new. People invented new ways to get places, like cars and planes. People also invented lots of the things we use today, like lights and computers and phones."

Teacher: "What would you invent? Would you invent a really fast spaceship, or a fun new toy, or a skateboard that flies? Turn to a partner and tell them something you would invent."

Students discuss with a partner and then respond to the teacher.

Teacher: "Ana, what would you invent? A bike that flies? Wow! Parker, what would you invent? A collar so that your dog can talk? That sounds like an amazing invention!"

You can extend your students' learning by having them count syllables (to develop phonological awareness) or add suffixes to change the meaning (to develop morphological awareness). Older students can practice both reading and writing the vocabulary word. We'll take a look at how these skills can all come together in fast mapping.

Fast Mapping

Fast mapping is a term used for a specific instructional strategy. In fast mapping, the teacher introduces the new word and then provides a student-friendly definition. The teacher then gives lots of examples, non-examples, and opportunities for students to interact with the word.

For example:

Teacher: "We are going to learn a new vocabulary word. The word is summarize."

Teacher: "What is the word?"

Students: "Summarize!"

Teacher: "Say it again—our new word is summarize!"

Students: "Summarize!"

Teacher: "To summarize is to say the most important facts about something. You keep it short and clear." **Teacher**: "For example, if I were going to summarize what we did during reading instruction today, I would say 'We learned new vocabulary words, we learned to spell words with the (ch) sound, and we each had time to practice reading a book we selected.' See? Short and sweet. So, to summarize is to just say the most important facts and to keep it short and clear. Tell your neighbor what the word summarize means."

Students talk to neighbors.

Teacher: "If I went on and on and told you each word I wrote and you read on our blending board, and I said *exactly* which book each of you were reading, and I listed all the vocabulary words, would I have summarized what we did during reading today?"

Students: "No."

Teacher: "To summarize means you just stick to the most important facts, and it is short and clear."

Teacher: "Let's talk about the story we read together this morning. Can you turn to your neighbor and summarize the story? Tell them what happened first, next, and what finally happened. I will give you a way to get started. 'I am going to summarize the story. Here is what happened first...'"

Students talk to neighbors.

Teacher: "Let's count the number of syllables in summarize. We will clap it out."

Teachers and Students: "(sum) (ma) (rize)."

Teacher: "How many syllables?"

Students: "Three."

Teacher: "What is our new word?"

Students: "Summarize"

Teacher: "And it means...? Tell your neighbor." [*teacher listens to students*' *conversations*]

Teacher: "Let's come up with an action that

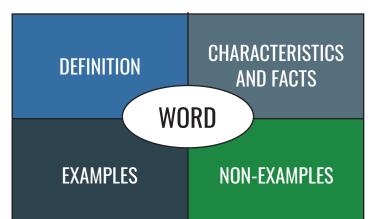
will remind us of the meaning of summarize."

Teacher leads students in a physical action (maybe a signal for short) to remember the meaning of summarize.

Just how many times a student needs to be exposed to a word for it to become part of their language base is largely dependent on the student. For some students, it may only take one or two interactions with a word. For other children, the meaning of certain words may remain elusive. However, most of the research has concluded it takes between 14 and 17 exposures to a word for it to become part of our long-term memory (Bennett, 2021).

Using Graphic Organizers

There are many different graphic organizers teachers can use to help students learn new words. One graphic organizer that is frequently used is the Frayer Model, *below* (Frayer, 1969; Buehl, 2001).



The Frayer Model has four steps:

- **Step 1**: Define the word.
- **Step 2**: Identify its characteristics. For example, if the target word is democracy, characteristics include free elections, majority vote, and representation of the population. You might also include the part of speech.
- **Steps 3 & 4**: Lead students in a discussion of examples and non-examples.

The model is designed to expand students' conceptual understanding of the word by

analyzing definition, facts, and characteristics and synthesizing by discussing examples and non-examples (National Behavior Support). Each content area has domain-specific vocabulary, and the Frayer Model lends itself to all content areas.



5 | TEACHER TOOLKIT: FRAYER MODEL (SECONDARY) Watch Emily Eckelkamp use the Frayer model to help her students learn new science vocabulary words.

Building Vocabulary through Morphemes

Affixes

A morpheme is the smallest unit of meaning in a word. A morpheme can be a word, as in school, home, or help, or it can be a part of a word as in -ing, -less, or -ful. When we add vowel suffix -ing to *school*, it becomes *schooling*. By adding the suffix -ing, we have also changed the word from a noun (school) to a verb (schooling). If we add the consonant suffix -less to the word *home*, we've changed the meaning of the word from having a place of shelter to being without a home; in short, we've created an antonym for home.

Teaching common prefixes and suffixes builds vocabulary. The term *affix* includes both categories, prefix and suffix. Teaching students to recognize affixes as units also helps with decoding. Often, our students will look at a multi-syllabic word and start trying to sound it out from the beginning of the word. That strategy works with single-syllable words, but it becomes inefficient with longer words. If they recognize the affix as a unit, then they have a much easier time reading the word. Some teachers use a strategy called box it. For example, if the word is helplessness:

helplessness

The student would put a box around the suffix -less and the suffix -ness. The base word is help, which is probably a word they can read. However, if they started trying to do soundby-sound decoding at the h, the student would probably get frustrated somewhere between -less and -ness.

When we teach affixes, we want to give the students information regarding their placement (prefix or suffix), meaning, and also examples of words with the affix. Review the most common prefixes and suffixes at the end of this section (Nordquist, 2020).

Fourteen valuable morphemes

In addition to prefixes and suffixes, we can also teach students Latin and Greek roots. A root is another word for *morpheme*. Roots are considered "bound morphemes." A root is "bound," because it cannot stand on its own without a prefix, suffix, or another root.

The word *thermometer* is a great example. It has two roots: "therm," which means having to do with heat or temperature, and "meter," which means measurement. If we teach students to recognize "therm" as heat or temperature, and "meter" as measure they can read many more words such as thermostat, thermography, thermoelectric, thermochemists, millimeter, centimeter, kilometer, and so on.

When teaching in content areas, especially science and math, look for those valuable roots. Marcia Henry (1990) compiled a list of 14 valuable morphemes, which can unlock the meaning of thousands of words for our students. Review her list at the end of this section.

Grade-level expectations for morphology, the study of morphemes

Children are genuinely curious about language. If we follow Isabel Beck's advice, our first and second graders will be using complicated, sophisticated words, but we want to make sure that we're not overwhelming students with linguistic jargon.

The study of morphemes (morphology) starts early. In kindergarten, we can teach simple suffixes such as -s, -ed, and -ing. In first grade, we can introduce and help students understand the concepts of prefixes and suffixes and use them orally.

By second grade we want them to be able to both read and write common suffixes and start to understand prefixes like pre-, re-, and mis-. In third grade, we want to add to their understanding of more prefixes (such as un-, sub-, over-, post-) and more suffixes (-ful, -ness, -ly, -less) and use affixes both orally and in writing.

And in fourth grade, our students shift from learning to read to reading to learn. Those valuable morphemes will help with both decoding unfamiliar words as well as understanding new words they encounter in text.



6 | MORPHOLOGY Hear a definition of morphology and explore examples.

COMMON PREFIXES

Prefix	Meaning	Examples
a-, an	without, lack of, not	amoral, acellular, abyss, achromatic, anhydrous
ante-	before, earlier, in front of	antecedent, antedate, antemeridian, anterior
anti-	against, opposite	anticlimax, antiaircraft, antiseptic, antibody
auto-	self, same	autopilot, autobiography, automobile, autofocus
circum-	around, about	circumvent, circumnavigate, circumscribe
co-	with, together	co-pilot, co-worker, co- exist, co-author
com-, con-	together, with	companion, commingle, contact, concentrate
contra-, contro-	against, opposite	contradict, contrast, contrary, controversy
de-	down, off, away from	devalue, deactivate, debug, degrade, deduce
dis-	not, apart, away	disappear, disagreeable, disbar, dissect
en-	put into, cover with	enclose, entangle, enslave, encase
ex-	out of, from, former	extract, exhale, excavate, ex-president
extra-	beyond, outside, more than	extracurricular, extravagant
hetero-	different, other	heterogeneous, heterosexual
homo-	same, alike	homonym, homophone, homeostasis
hyper-	over, more, beyond	hyperactive, hypersensitive, hypercritical
il-, im-, in-, ir-	not, without	illegal, immoral, inconsiderate, irresponsible
in-	in, into	insert, inspection, infiltrate
inter-	between, among	intersect, interstellar, intervene, interpenetrate
intra-, intro-	within, inside	intravenous, intragalactic, introvert

Prefix	Meaning	Examples
macro-	large	macroeconomics, macrostructure, macrocosm
micro-	very small	microscope, microcosm, microbe
mono-	one, single, alone	monocle, monologue, monogamy, monotony
non-	not, without	nonentity, nonaggressive, nonessential, nonfiction
omni-	all, every	omniscient, omnivorous, omnidirectional
post-	after, behind	postmortem, posterior, postscript, postoperative
pre-, pro-	before, forward	precede, predict, project, prologue
sub-	under, lower	submarine, subsidiary, substandard
sym-, syn-	same time, together	symmetry, symposium, synchronize, synapse
tele-	from or over a distance	television, telemedecine, telephone
trans-	across, beyond, through	transmit, transaction, translation, transfer
tri-	three, every third	tricycle, trimester, triangle, triathlon
un-	not, lacking, opposite of	unfinished, unskilled, ungraceful, unfriendly
uni-	one, single	unicorn, unicellular, unicycle, unilateral
up-	to the top or north, higher/ better	upbeat, updo, upgrade, upload, upstage, upscale, up-tempo

COMMON SUFFIXES Noun suffixes

Suffix	Meaning	Examples
-acy	state or quality	privacy, fallacy, delicacy
-al	act or process of	refusal, recital, rebuttal

Suffix	Meaning	Examples
-ance, -ence	state or quality of	maintenance, eminence, assurance
-dom	place or state of being	freedom, wisdom, boredom
-er, -or	one who	trainer, narrator, protector
-ism	doctrine, belief	communism, narcissism, skepticism
-ist	one who	chemist, narcissist, plagiarist
−ity, −ty	quality of	inactivity, veracity, parity, serenity
-ment	condition of	argument, endorsement, punishment
-ness	state of being	heaviness, sadness, rudeness, testiness
-ship	position held	fellowship, ownership, kinship, internship
-sion, -tion	state of being	concession, transition, abbreviation

Verb suffixes

Suffix	Meaning	Examples
-ate	become	regulate, eradicate, enunciate, repudiate
-en	become	enlighten, awaken, strengthen
-ify, fy	make or become	terrify, satisfy, rectify, exemplify
-ize, ise	become	civilize, humanize, socialize, harmonize

Adjective suffixes

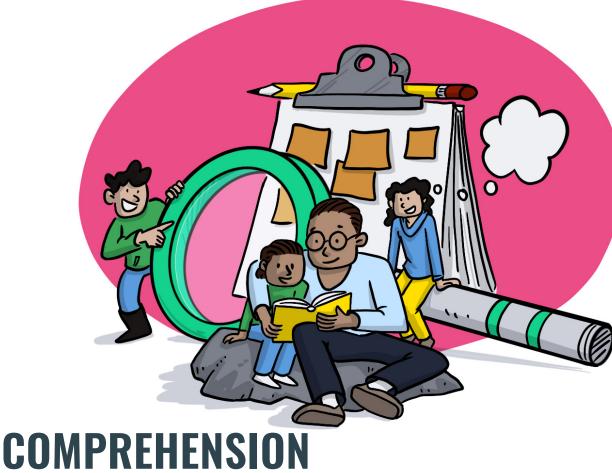
Suffix	Meaning	Examples
-able, -ible	capable of being	edible, presentable, abominable, credible
-al	pertaining to	regional, grammatical, emotional, coastal
-esque	reminiscent of	picturesque, statuesque, burlesque

Suffix	Meaning	Examples
-ful	notable for	fanciful, resentful, woeful, doubtful
-ic, -ical	pertaining to	musical, mythic, domestic, chiastic
-ious, -ous	characterized by	nutritious, portentous, studious
-ish	having the quality of	fiendish, childish, snobbish
-ive	having the nature of	creative, punitive, divisive, decisive
-less	without	endless, ageless, lawless, effortless
-y	characterized by	sleazy, hasty, greasy, nerdy, smelly

FOURTEEN MORPHEMES Word Roots

Root word	Meaning	Examples
cept, cap, ciev, ciet	To take, to seize, to receive	capable, capsule, captive, captor, capture, accept, deception, exception, interception, conception, reputable, perceptive, precept, receive, receipt, deceive, deceit
duc, duce, duct	To lead	conduct, deduct, educate, induce, introduction, produce, reduce, reduction, production
fac, fact, fic, fect	To make (other various meanings)	fact, manufacture, faculty, facility, facile, facilitate, satisfaction, factor, beneficiary, amplification, certificate, confection, affect, defective, disinfect, efficacy, magnificent, personification, sufficient, proficient
-graph	To write	autograph, photograph, bibliography
mit, miss	To send	mission, missile, missive, admit, admission, commit, dismiss, emissary, intermission, intermittent, remiss, remit, remittance, submit, remission, transmit, emit, permit, permission, permissive, transmission

-ology	The study of	archeology, biology, psychology, physiology
plicy, ply	To fold	implicit, implicitness, explicit, implication, replicate, complicated, application, ply, apply, imply, reply
pos, pon, pose	To put, place, set	position, compose, composite, dispose, oppose, component, postpone, proponent, deposit, compound, depose, preposition, disposal, exposition, exponent, expose, impose, suppose, opponent, proposition
scrib, script	To write	scribble, scribe, ascribe, describe, description, conscript, inscribe, inscription, superscription, prescribe, prescription, script, scripture, transcript, transcription
sist, sta, stat	To stand, endure	persist, consistent, consist, desist, assist, resist, assistant, insist, stamina, constant, distant, obstacle, standard, substance
spec, spect	To see, watch, observe	spectacles, spectator, inspection, respect, spectrum, disrespect, inspector, retrospective, species, special, specimen
tend, tens, tent	To stretch, strain	tendency, intent, intention, intently, extended, tense, intense, pretense, tension, attention, distend, detention, unintentionally, intensity
ten, tent, tain	To have, hold	tenant, tenable, tenacity, contents, contentment, intent, maintain, contain, retain, retentive



CUMPREHENSION Deriving Meaning from Text

A vast majority of our students come to us with the ability to speak and comprehend oral or verbal language. Starting as babies, students are exposed to speech and acquire language over time both with implicit and explicit input.

Human beings are very well equipped to develop, acquire, and use language at a young age. Listening and speaking, though, are altogether different from reading and writing: reading comprehension inherently must be taught. Reading comprehension is formed when an individual student learns concepts, tools, and skills and uses this learning to form their reading ability.

While we teach individual discrete skills (i.e., phonological awareness, phonics, vocabulary, and fluency) it is all with one goal in mind: reading comprehension. Gough and Tumner (1986) created an equation for what they named the Simple View of Reading. In their model, decoding (D) x language comprehension (LC) = reading comprehension (RC).

Comprehension is the ability to derive meaning from text. Reading comprehension is an outcome of both our abilities to decode (**phonics**) and our ability to understand language.

$\mathbf{D} \mathbf{x} \mathbf{L} \mathbf{C} = \mathbf{R} \mathbf{C}$

Decoding is the ability to apply letter-sound knowledge to correctly pronounce words. We build decoding skills by teaching students phonics and fostering **phonological awareness**. Strong early skills in decoding help students develop sight recognition of words.

We build language comprehension (background knowledge, **vocabulary**, language structures, verbal reasoning, and literacy knowledge) through listening comprehension. Listening comprehension is just as important as reading comprehension and begins much earlier.

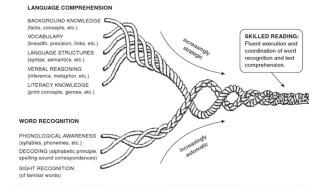
In fact, the brain uses the same regions for listening comprehension as for reading comprehension (Eide, 2012). Through listening, students can expand their understanding of vocabulary and language structures, learn how to draw inferences, and even identify genres.

The value of listening comprehension is particularly important when we consider the diversity of our students in Alaska. Alaskan Native cultures are based on an oral tradition of passing on knowledge through storytelling and other spoken traditions.

There is great value in storytelling and using elements of students' heritage to build critical comprehension skills (Gillispie, 2021). Even if you do not hold the same identities as your students, you can celebrate the diversity of their cultures and ways of sharing knowledge. Engaging students to be able to teach what they know to their fellow students and us as teachers improves outcomes for all students.

The Reading Rope

In 2001, Hollis Scarborough went further than Gough and Tunmer's Simple View of Reading and developed what she named the Reading Rope, which includes more detail into the specific skills necessary for both reading comprehension (background knowledge, vocabulary, language structures, verbal reasoning, and literacy knowledge) and word recognition (phonological awareness, decoding, and sight recognition).



Reading Comprehension

The findings of each of these researchers have been built upon and advanced over the years. In 2000, the National Institute of Health released the findings of the National Reading Panel. They reviewed studies from 1979 to 2000 and found three dominant themes that wove throughout the studies:

"First, reading comprehension is a complex cognitive process that cannot be understood without a clear description of the role that vocabulary development and vocabulary instruction play in the understanding of what has been read. Second, comprehension is an active process that requires an intentional and thoughtful interaction between the reader and the text. Third, the preparation of teachers to better equip students to develop and apply reading comprehension strategies to enhance understanding is intimately linked to students' achievement in this area."

Vocabulary Instruction

As early as 1924, researchers noted that growth in reading power means continuous growth in word knowledge (Whipple, 1925). This is why there are lots of strategies for teaching both oral and print vocabulary on pages 28 to 38 of *Alaska's Reading Playbook*. In this section, though, we return to vocabulary to discuss the importance of teaching vocabulary both directly through specific instruction and indirectly by encountering it in text. Good teaching takes good planning. Reviewing a passage, identifying new or unfamiliar words, and explaining them in student-friendly definitions prior to reading a passage aid comprehension.

Comprehension is taught all during the day, not just during the literacy block. In fact, in terms of the relationship between vocabulary and comprehension, textbooks from other content areas that use common morphemes (i.e., the smallest units of meaning), roots, suffixes, and prefixes are a great way for students to gain both vocabulary and understand the passage. For example, in science lessons, students are likely to encounter, *bio-*, *geo-*, and *tele-*. In math, teaching the morphemes *centi* and *menti* will help students learn new content (Mountain, 2015, pp. 561–56). Looking at the passage before teaching it to students and identifying new words and new morphemes will help students comprehend whatever they're reading.

Teaching morphologic and syntactic skills with accompanying grammatical constructs is a crucial foundation for students to master. This could also be described as the language or mechanics of reading. As students advance through higher grade levels, their literacy skills, especially comprehension, are pushed further and further because each area of study has distinct writing and subsequent reading style.

Math, arts, science, history, and language arts all use different disciplinary literacies which require students to be aware of which subject they are reading in order to decode and comprehend accordingly.

Teaching students to learn to be aware of how they learn, along with how to use their literacy tools, allows them to more rapidly succeed and explore new disciplines.

Comprehension as an Active Process

Another way to define comprehension is "intentional thinking during which meaning is constructed through interactions between text and reader" (Harris & Hodges, 1995). In other words, readers create meaning when they engage in intentional, problem–solving thinking processes (National Reading Panel, 2000).

The data from the 453 studies reviewed by the NRP suggest that text comprehension is enhanced when readers actively relate the ideas represented in print to their knowledge and experiences and construct mental representations in memory. This underscores the importance of bringing in literature that reflects the students' lived experiences and represents their culture. Local Tribes and regional organizations may be able to help shine a light on this type of literature.

Making comprehension an interactive process is another way of saying that we're teaching metacognition: thinking about thinking. Comprehension can be improved by teaching students specific cognitive strategies. The NRP identified the following seven instructional practices that have a solid scientific basis for instructional use:

1. Comprehension monitoring, where readers learn how to be aware of their understanding of the material

Good readers self-monitor their reading. They stop and ask themselves, "Does what I just read make sense?"

While for some of us this is an intuitive process, many students benefit from being taught to stop every so often and ask themselves questions. Adept readers also adjust their reading rate. For example, your fluency (measurement of accurate reading speed) rate varies depending on the type of text you are reading.

If you are reading a novel or the newspaper, chances are your rate of words per minute is fast. If, on the other hand, you are reading a textbook and encountering many unfamiliar words or complex sentence structure, you probably read slower and stop more frequently. Adjusting the reading rate depending on the complexity of the text is a learned skill and not something that comes naturally to all students.

Think Aloud

A "think aloud" works well as an instructional strategy and is different from modeling. It is not just showing the students what to do; instead, it is explaining each step and the thought process that goes along with that step. Repeating that process with a variety of both narrative (stories) and expository (informational) text is necessary so that students learn which types of thinking processes we use depend on the passage we are reading.



1 | GO BEYOND A MODEL: REVEAL A THINK ALOUD Kristina Smekens explains how to implement this strategy in your classroom.

You can gradually release students from just following the teacher's thought process. As part of this process, it is a good idea to give them a visual cue that will remind them to stop and interact with the text. You could use WWWWH (i.e., who, what, when, where, why, how) index cards, a bookmark with specific questions they should ask themselves as they go along, or an anchor chart, among other resources and cues.

Some sample questions to make reading interactive are:

- Can I retell all of the important details that happened on that page?
- Can I name the major characters who played an important role?
- Can I say something about each of the characters' traits?
- Can I explain how the characters are connected to each other?
- Can I describe the setting where the scene is taking place?
- Can I describe the time frame in which the scene is taking place?
- Can I name the major problem or conflict that is happening?
- Can I describe one or more major events that are in the process of occurring?

2. Cooperative learning, where students learn reading strategies together

Cooperative learning is a powerful strategy for all content areas, but particularly so in reading. In *Visible Learning*, John Hattie rank-ordered factors contributing to student achievement by effect size, or the strength of the impact of one variable on another. So how impactful is cooperative learning on student achievement?

Anything over an effect size of .40 is considered strong, and cooperative learning has an effect size of .55. Working with peers aids interaction with text, which enhances comprehension. Encourage students to share their own "Think Alouds" with each other. You might have them each take two of the questions (above) and share their thoughts. They can work in teams, in pairs, or with a neighbor.

According to Hattie, even stronger than cooperative learning is the Jigsaw Method. The Jigsaw Method is much like it sounds: students read, summarize, and share their knowledge from a piece of the passage. In this method, each student has a key piece of the puzzle only together can the students create the whole picture! The Jigsaw Method has one of the highest ratings, with an effect size of 1.20.

Cooperative Learning may take longer than a simple lecture format where the teacher does most of the talking, but it aids comprehension and builds competence.



2 | COOPERATIVE LEARNING GROUPS MAKE SCHOOL FUN Jon Schwartz shares how cooperative learning groups can empower and engage students.

3. Use of graphic and semantic organizers (including story maps), where readers make graphic representations of the material to assist comprehension

Graphic organizers are a way of creating a visual representation of the text. They assist students in learning new material, because they give students a way to organize and prioritize information. For example, you might have students complete a graphic organizer where they identify the main idea or topic, separate supporting ideas, or identify supporting ideas and details. To fill in a graphic organizer, students need to be able to summarize and examine the text and its structure.

Once students complete the organizer, they should be able to retell or paraphrase the text. There are many types of graphic organizers, and the type you use will depend on the genre.

- **Star Organizer**: You might use a star with five points. In the center of the star, the students write the main idea. Each point of the star gets its own category: who, what, when, where, and why).
- Ladder Organizer: You might use a ladder if you want to emphasize the chronological order of events. The first rung of the ladder gets what happened first, the next rung, the next event, and so on. The last rung is for what happened at the end of the story.
- Venn Diagram: The Venn Diagram is particularly powerful because it has the students identify what is the same (in the center) and what is different (in each of the circles). A Venn Diagram can be used in almost every discipline. It is a simple way to teach students how to compare and contrast concepts and characteristics.

Students often have not seen or experienced much of the imagery expressed in the literature they read. One of the ways to help students understand and relate to this type of text is to combine *asking* why that imagery might exist along with *explaining* why that imagery is used. To help students contextualize imagery in their own lives, you can ask them to create a visual representation of the situation represented in the text and the equivalent personal local imagery from their community. This shows that the student is comprehending and understanding the text and making it personal, which increases retention and deeper understanding across topics or disciplines.

Students must be comprehending what they are reading to be able to complete a graphic organizer. Scaffold your instruction by modeling and doing a Think Aloud as you are completing a graphic organizer (I do), completing it with students several times using different passages (we do), and, when they're ready, having students complete it it on their own or in pairs (you do).

4. Question answering, where readers answer questions posed by the teacher and receive immediate feedback

We can use a variety of questioning strategies in our classrooms to support reading comprehension. We can ask literal questions, where the students can pull information directly from the text. For example, if we were reading a passage about spiders, we might ask, "How do spiders eat their prey?" We ask those literal questions to monitor students' comprehension and to model what good readers do—they stop and think about what they've read. We want to use those literal questions with both fiction and nonfiction (informational/expository) text. Comprehensive reading programs usually have questions built in the teacher's edition at logical stopping points.

We can also go a step further and employ close reading. *Close reading* is a strategy where readers carefully (or closely) read the text and identify where in the passage they learn information, which we often call "citing the evidence." When we ask students, "Where did you find that information?" and have them cite the evidence, they're practicing close reading. They are also connecting to the text.

We want to have students connect or interact with the text we are reading, but we also want them to connect with prior learning. So, we might ask, "How does this passage about spiders connect with what we read about bats? What is the same about both species of animals?" or "We've learned some spiders are orb spiders, which describes the shape of their webs. Where else have you seen orbs in our math, science, or social studies lessons?" When we have students make connections with prior learning, we reach a higher level of comprehension.

In addition to connecting with the text, we also want students to connect with "self." In other words, how does the new information in the passage connect with them as individuals? Using the same example, we could ask, "Given what you've learned about spiders, why do you think some people are afraid of them?"



3 | TEACHER USES QUESTIONING TO ENGAGE STUDENTS See questioning in action with this video from EngageNY.

We want to balance our questioning between literal (i.e., can be easily answered from the text), closed-ended (i.e., can be answered by selecting from a limited number of options) and open-ended questions. Open-ended questions often start with "Why?." In reading, an openended question might be related to the author's point of view or the reasons behind an action a character takes. When we use questions, we should avoid calling on one student at a time. An effective strategy to use for questioning is think-pair-share. Students reflect and develop their own answer, discuss with a partner, and share with a larger group. We can also assign questions to collaborative group. The practices we use for questioning should give as many students as possible a chance to interact with us, one other, and the texts.

After you ask a question, make sure to give them wait time, or have students first rehearse their answer with a partner. Silence is an important tool in encouraging students to share their answers. If the same few students keep volunteering to answer, tell students you'll wait until more join in: "I see three hands, but I'm going to wait until we have ten." And then wait. It might be hard to have those uncomfortable seconds tick by, but the goal is to have all students interacting, not just a few.

5. Question generation, where readers ask themselves questions about various aspects of the story or passage

We have trained students to answer our questions, but what we really want is for them to ask their own questions. In an era of standardized testing where students are so often trained to just answer our questions or fill in a worksheet, this is an area where students need additional support and practice. It's worth the investment—students will be able to use this skill for the rest of their lives.

If you have a comprehensive reading curriculum, you will often see "Essential Questions" at the beginning of a unit or a weekly series of lessons. You can use those to have students connect with the text and make predictions about what they will be reading. You may also see "Questioning the Author" or "Meet the Author" sections in your curriculum. Again, these offer an opportunity for students to generate questions even before they read.

In our effort to cover the standards and foundational skills, we often neglect to spend

enough time with the essential questions, although we know from research that questioning aids comprehension. The **Right Question Institute** has a method taught to both children and adults. It starts with some ground rules:

- 1. Ask as many questions as you want
- 2. Do not stop to ask questions, judge, or answer questions
- 3. Write down every question exactly as stated
- 4. Change any statement to a question

For young learners, we may have to make some minor modifications (e.g., writing questions down), and we may need to spend some time teaching the difference between a statement and a question, but the method still works.

After going over the ground rules, the teacher begins by formulating a statement. For example:

"Humpback Whales travel 3,100 miles during migration."

Students then work in groups to generate questions. They could ask:

- When do Humpback Whales migrate?
- Where do the whales migrate from?
- What parts of Alaska do they come to?
- Do the whales come on their own or in families?
- Why do they migrate?
- · Are there other kinds of whales in Alaska?
- How big is a Humpback Whale?

Give students a set amount of time to generate their questions, and have them categorize the questions into closed- or open-ended questions. This activity can be used at any stage of reading: when the passage is introduced to pique students' interest, during reading to engage students, and after the passage to assess what students have learned. Like other comprehension strategies, question generation can be applied across genres and content areas. It also functions as an effective formative assessment or exit ticket. As you're ending a lesson, have students simply draw a circle and write three questions that they have circling around in their minds.



4 | USING THE QFT FOR FORMATIVE ASSESSMENT Learn how to use the Question Formulation Technique (QFT) for formative assessment.

6. Story structure, where students are taught to use the structure of the story as a means of helping them recall story content to answer questions about what they have read

Story structure includes things like the main character, setting, problem, solution, plot (beginning, middle, end, or denouement, the final part of the story where the strands of the plot come together). The word *denouement* is French and means "to untie," and it's precisely what we want our students to do when they are learning story structure. We want them to be able to first put it all together—"This story is about..."—and then untie the story so the moral or lesson is evident. We can use a few tools to help students untie the story:

- Anchor chart: Includes characters, setting, problem, and solution, and is available during the entire lesson
- Graphic organizer: Students identify the characters, setting, problem, and solution
- **Time-order graphic**: The class identifies what happened first, next, and finally

You can scaffold the activity so that students work with you to build the structure before they try it in groups, pairs, or on their own.

When examining literature outside mainstream genres, there are possibilities for stories that don't have a clear "moral to the story" or "problem/solution" storyline. A prime example of this within Alaska Native stories is the representation of Raven. Raven can be seemingly good and evil, both trickster and helper, or simply a story that might have lessons or teachings woven into its fabric but with no climax or clear ending.

We can use the strategy of story structure when we are reading to students, and then we can also have children use it as they become more independent readers. With young children (i.e., pre-kindergarten, kindergarten, and first grade) our goal should be that they identify the different elements. As we move on to second or third grade, they should be able to add things like traits and feelings. With fourth and fifth graders, they should begin to compare characters, settings, problems, and solutions of a particular story with other stories.



5 | TIPS FOR TEACHING STORY ELEMENTS

Jessica Tobin shares her tips for covering character, setting, events, and challenge/response with students.

After our students recognize basic story structure vocabulary and components, we can broaden the definition of story structure and teach the structure of different genres. While narrative or fictional text follows the same basic structure, informational text has a variety of structures such as time-order (sequences of events), cause/effect, compare/ contrast, descriptive, and so on. Young children don't always generalize what we are teaching, so consider using graphic organizers in content areas other than reading. For example, if you are teaching science, the structure of the passage may be descriptive (i.e., describing something). You can support students' comprehension by showing them that a descriptive passage usually follows a similar structure. When we are reading descriptive text, we usually:

- 1. Give something a name,
- 2. Put it in a category,
- 3. Describe its characteristics, and
- 4. Make a comparison to something else.

In math, we might want to use a Venn diagram. If we were teaching students the difference between a rectangle and a square, we could show that they both have four sides (center of diagram) but differ in that the sides of a rectangle are not all the same length.

7. Summarization, where readers are taught to integrate ideas and generalize from the text information

Skilled readers intuitively summarize as they are reading, but the ability to summarize is a higher-order skill. When we ask students to summarize text, we are really asking them to keep whatever they've read (or heard) in working memory, identify both the main idea and supporting ideas, and sort through what is relevant and irrelevant in terms of details.

Summarization is critically important for comprehension and learning. Students will be asked to summarize first orally and then in writing, throughout their academic career.

Young readers tend to plagiarize rather than summarize, and this tendency is fine for their age group. We want them to be able to "retell" the story, and plagiarization is an early iteration of this skill. As they grow, we will teach them the two processes included in summarization: selection and reduction When we summarize, we select specific parts of the story or passage that support the main idea and leave out information that isn't necessary to tell the story. With our students, we can model a think aloud and use anchor charts or other visual prompts to support their learning.

We can also summarize using pictures. Many comprehensive programs come with story cards, and we can have students sort the cards into the correct order and then retell the story. We can also have students draw pictures when we are reading aloud to help them remember the key points of the story. We can model the process before encouraging students to try it on their own or work with a partner.

We should start from a place of ease. Narrative text is usually easier. Start with a short, easy, uncomplicated text, preferably something the students are familiar with, to introduce the concept. As you model the process, keep the text in front of the students, and talk about the mental process you go through as you are selecting and eliminating pieces of the story. Often, students think this process is only done once, so we also want to model how we reduce the summary by revising our work.

We want to ensure that we take a few minutes to model summarization at the end of every text, but we also want to model stopping frequently while reading to summarize what we've read.



6 | SUMMARIZING STORIES

Watch Khan Academy demonstrate summarizing through a classic children's story.

Metacognition

Metacognition means "thinking about one's thinking." Comprehension is often aided by encouraging students to stop and ask themselves, "Does what I just read make sense?" The National Reading Panel (2000) found that "teaching a combination of reading comprehension techniques is the most effective." Since that time, research supports both the idea of teaching students more than one strategy and having them think about what strategy they would use and why they would use it does result in better outcomes.



7 | WHAT'S METACOGNITION — AND WHY DOES IT MATTER? Watch a quick introduction to metacognition from Edutopia.

Even though our students need distributed practice, many of our curriculum materials encourage in-depth focus on a single strategy at a time. While we are teaching students our new strategy, we want to refer to prior learning. For example, if we were teaching summarization, we might want to pull out a graphic organizer and demonstrate how the graphic organizer helps us summarize the story.

We can ask, "Which would you do first? Would you fill out the graphic organizer while you're reading and then summarize the story? Or would you read the story, summarize it in your head, and then fill out the graphic organizer?" (Chick, 2013).

There is no right answer, but encouraging students to think about their process and helping them learn how to select the best strategy or tool is a way of teaching them to be independent readers and learners. In *Promoting* *Student Metacognition* (2012), Tanner describes four assignments for explicit teaching that can easily be adapted to elementary students:

- **Step 1 (pre-assessment)**: Have students consider what they already know about the topic.
- **Step 2 (the muddiest part)**: While reading, stop and ask yourself: What was the most confusing part?
- **Step 3 (post-assessment)**: "Before I read this, I thought...," "Now, I think..."
- Step 4 (reflection): What strategy did I use to understand the text? Did it work well? Would I use it again or would I try something else?



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Video Resources

Phonological Awareness

1 What Is Phonological Awareness? https://www.youtube.com/ watch?v=K0G6teawxls

2 | 44 Phonemes https://www.youtube.com/

watch?v=wBuA589kfMg

3 | Counting Words in a Sentence: Using Magnets https://www.youtube.com/ watch?v=ZAUm4YWQFeQ

4 | Reading Rockets: Syllable Games https://www.readingrockets.org/ strategies/syllable_games

5 | Ideas for Teaching Rhyming: Smiley Wiley https://www.youtube.com/ watch?v=oRtGfXWrf6Y

6 | Letters vs. Phonemes https://www.youtube.com/ watch?v=J608Dbhs6J8

7 | Final Sounds Hand Motion for Heggerty Phonemic Awareness https://www.youtube.com/ watch?v=1h9sQSx1pvQ

8 | Isolating Medial Sound https://www.youtube.com/ watch?v=euLFJa9j9uI

9 | Phonemic Segmentation https://www.youtube.com/ watch?v=hbOpKUapsNY

10 | Phonemic Segmentation https://www.youtube.com/ watch?v=hbOpKUapsNY

11 Drive-Thru Blending in Kindergarten: Practicing Early Decoding Skills https://www.youtube.com/ watch?v=ocHVWMPuBYY

12 | Cut Off the Sound, Word on the Curve https://vimeo.com/449311599

13 | Mix It Up (Week 9) https://vimeo.com/449305543

Phonics

1 | Dr. Mary Dahlgren "Sound Walls and Phonemes" https://www.youtube.com/ watch?v=Wws8GhjoIJ0&feature=youtu.be 2 | Nessy Reading Strategy | Closed and Open Syllables | Learn to Read https://www.youtube.com/ watch?v=c3j3YVocNxk

3 | Drive-Thru Blending in Kindergarten: Practicing Early Decoding Skills https://www.youtube.com/ watch?v=ocHVWMPuBYY

4 | 3.1 Map A Word https://www.youtube.com/ watch?v=tNZq_NudqOA

Fluency

1 | Why Fluency is a Foundational Skill With Dr. Jan Hasbrouck https://www.youtube.com/ watch?v=2xcK3_Wev9Y

2 | **Video 34: Repeated Reading** https://www.youtube.com/ watch?v=8q2mvF_6K6M

3 | Readers' Theater (2nd Grade) https://www.youtube.com/ watch?v=EGk6MjRpFcM

4 | Choral Reading https://www.youtube.com/ watch?v=o_-z8dosRUA

5 | Partner Reading https://www.youtube.com/ watch?v=vZbyBKs2jN8

Vocabulary

1 | Vocabulary and Comprehension https://www.youtube.com watch?v=BjE3XjBZsdI

2 | Dr. Pat Kuhl: The Importance of Baby Talk https://www.youtube.com/ watch?v=m36MhGfBYAY

3 Vocabulary Instruction https://www.youtube.com/ watch?v=ltSJtcoOLfo

4 | ArcherKVocab https://www.youtube.com/ watch?v=OW4eduynQ1E **5 | Teacher Toolkit: Frayer Model (Secondary)** https://www.youtube.com/ watch?v=x83RVBIAnYQ

6 | Video 8: Morphology https://www.youtube.com/ watch?v=KMbuIYgRlBU

Comprehension

1 | Go Beyond a Model: Reveal a Think Aloud https://www.youtube.com watch?v=UmhLgsBD1-I

2 | Cooperative Learning Groups Make School Fun for Kids! https://www.youtube.com/ watch?v=s8M1FLOd8PU

3 | Teacher Uses Questioning to Engage Students: Example 10 https://www.youtube.com/

watch?v=s8M1FLOd8PU

4 | Using the Question Formulation Technique (QFT) for Formative Assessment https://www.youtube.com/

watch?v=Mox0WRGGk0Y

5 | Tips for Teaching Story Elements https://www.youtube.com/ watch?v=xD5fqOS1SK4&feature=youtu.be

6 | Summarizing Stories | Reading | Khan Academy https://www.youtube.com/ watch?v=xD5fqOS1SK4&feature=youtu.be

7 | What's Metacognition — and Why Does It Matter? https://www.youtube.com/ watch?v=QJWsIJQHUxM

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