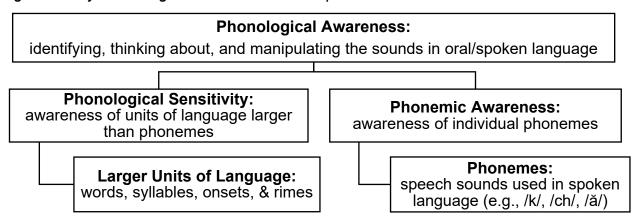


Phonological Awareness

Defining Phonological Awareness

To become proficient readers and spellers, students need to develop *phonological* awareness, which includes the ability to identify, think about, and manipulate the sounds in oral/spoken language¹. Phonological awareness includes two types of skills: (1) *phonological sensitivity* and (2) *phonemic awareness* (See *Figure 1*).^{1, 2, 3} *Phonological sensitivity* includes larger units of language such as words, syllables, onsets, and rimes, and *phonemic awareness* involves the smallest, individual sounds in spoken speech.

Figure 1. Key Phonological Awareness Concepts^{1,2,3}



To teach phonological awareness skills, teachers must have a strong understanding of *phonology* – the speech sounds in oral/spoken language and the rules for sequencing, combining, and pronouncing those sounds^{1,3}. Teachers who have greater knowledge of the components of language are better equipped to teach reading and spelling to young children and to individuals with and at-risk for dyslexia⁵. The units of language important for teaching phonological awareness are described in *Table 1*.

Table 1. Phonological Units of Language^{3,4}

Unit	Description	Examples
Word	whole words	bat, farm, swim, top
VVOIG	compound words	sandbox, baseball, campground
Syllable	a word or word part that	party = <i>part</i> + y; it has two syllables because
Syllable	contains one vowel sound	it has two vowel sounds: /ar/ and /ē/
	the part of a word that comes	the onset in <i>tap</i> is [t]; the onset in <i>swim</i> is
Onset	before the vowel sound;	[sw]; there is no onset in the word <i>at</i> and the
Onset	some words do not have an	rime is [at]
	onset	



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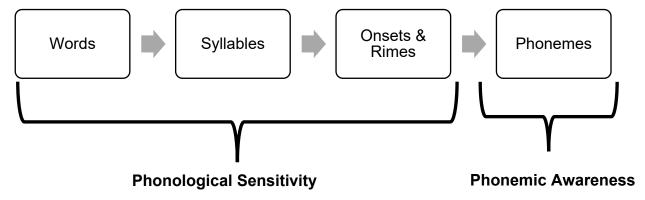
Unit	Description	Examples
	the vowel sound and	the rime in <i>tap</i> is [ap]; the rime in <i>swim</i> is
Rime	everything that follows the	[im]; the rime in <i>at</i> is [at]
	vowel sound in a word	
	the smallest unit of sound in	/b/ in the word bat; /h/ in the word hat; bat
Phoneme	a word; it is what makes one	and hat differ by their first phoneme (/b/
	word different from another	versus /h/)

Note. Adapted from Honig et al. (2018)4 and Moats et al. (2020)3.

Development of Phonological Awareness Skills

Children's phonological awareness skills develop gradually over time, and they typically acquire phonological sensitivity of the larger units of language before they become aware of the individual sounds in speech (Figure 2). For example, it will be easier for a child to orally blend together the syllables in a word (e.g., base + ball = baseball), than to orally blend individual speech sounds (e.g., /k/ /ă/ /t/ = cat).

Figure 2. Development of Phonological Skills



Phonemes – The Smallest Unit of Sound

There are approximately 43 *phonemes* or speech sounds in the English language and these phonemes are categorized by how the sounds are produced in the mouth.³ Most materials and programs for teaching reading and spelling use phonics symbols for these 43 phonemes (such as /k/ for the first sound in the word *cat* or /a/ for the first sound in word *at*) and phonics symbols will be used throughout this toolkit.

There are 25 *consonant phonemes* and they are spoken with the mouth partially closed and the teeth, lips, or tongue interrupt the airflow.

Table 2 Consonant Phonemes^{3,4}

Consonant Phonemes	Phonic Symbol (Example)
Filolielles	Filonic Symbol (Example)
speech sounds in	/b/ (<u>b</u> oy), /ch/ (<u>ch</u> ip), /d/ (<u>d</u> ig), /f/ (<u>f</u> un), /g/ (<u>g</u> et), /h/ (<u>h</u> op), /j/
which the mouth is	
partially closed and	(gym), /k/ (<u>c</u> at), /l/ (<u>l</u> ag), /m/ (<u>m</u> ix), /n/ (<u>n</u> ap), /ng/ (si <u>ng</u>), /p/
the flow of air is	(<u>p</u> et), /r/ (<u>r</u> at), /s/ (<u>s</u> at), /sh/ (wi <u>sh</u>), /t/ (<u>t</u> op), /th/ - unvoiced
	(wi <u>th), /th/</u> - voiced (<u>th</u> at), /v/ (<u>v</u> an), /w/ (<u>w</u> ent), /wh/ (<u>wh</u> ite), /y/
blocked by the	
teeth, lips, or tongue	(<u>y</u> et), /z/ (<u>z</u> it), /zh/ (deci <u>si</u> on)

Note. Consonant and vowel phonemes are categorized by their sounds, not the letters used to represent those sounds.

Consonant phonemes can also be classified by where they are made in the mouth and how they are pronounced:

- Continuous- sounds that can be held out until air runs out (/m/, /n/, /ng/, /f/, /v/, /th/, /th/, /s/, /z/, /sh/, /w/, /w/, /y/, /l/, /r/)
- Stop phonemes- sounds cannot be held out; air flow is stopped (/p/, /b/, /t/, /d/, /k/, /g/, /h/, /ch/, /j/, /wh/)
- Voiced- sounds pronounced with the vocal cords vibrating (/b/, /d/, /g/, /n/, /m/, /ng/, /v/, /th/, /z/, /zh/, /j/, /w/, /y/, /l/, /r/)
- <u>Unvoiced</u>- the vocal cords to not vibrate (/p/, /t/, /d/, /k/, /f/, /th/, /s/, /sh/, /h/, /ch/, /wh/)

When beginning instruction in blending, teachers should first select words that begin with continuous phonemes, because these are easier than words that begin with stop phonemes. Although teachers do not typically teach the terms "voiced' and "unvoiced" during phonological awareness instruction, it is helpful for teachers to know the difference between these two types of phonemes because they can use this knowledge to help students correct their pronunciation. For example, a student who is making the /p/ phoneme voiced, can be told by a teacher to say the /p/ with a "puff of air." Teachers could also have students put their hands up to their neck/throat to feel whether or not it is vibrating.

There are 18 vowel phonemes, and they are spoken with the mouth open and uninterrupted airflow.3 All vowel phonemes are voiced and continuous, but have additional features (see Table 3) to classify them:

- <u>Short</u>: vowel sounds made when the vocal cords are relaxed; a breve symbol (/~/) above the vowel letter indicates the short sound
- <u>Long</u>: vowel sounds made when the vocal cords are tensed; a macron symbol (/⁻/) above the vowel indicates the long sound



- <u>Diphthong</u>: vowel sounds that glide together
- R-Controlled: when an r immediately follows a vowel, it changes its sound

Table 3. Vowel Phonemes and Phonic Symbols

Vowel	
Phonemes	Phonic Symbol (Example)
speech sounds in which the mouth is open and the flow of air is not	Short Vowel Phonemes: /ă/ (at), /ĕ/ (bet), /ĭ/ (it), /ŏ/ (hot), /ŭ/ (up), /au/ or /aw/ (sauce)*, /oŏ/ (book)* Long Vowel Phonemes: /ā/ (lay), /ē/ (event), /ī/ (ice), /ō/ (open), /ū/ (unit), /oo/ (moon)
blocked by the teeth, lips, or tongue	R-Controlled Vowel Phonemes: /ar/ (car), /or/ (for), /er/ or /ir/ or /ur/ (her) Diphthongs: /ou/ or /ow/ (drown), /oi/ or /oy/ (boil)

Note. Consonant and vowel phonemes are categorized by their sounds, not the letters used to represent those sounds; */au/ or /aw/ and /oŏ/ are considered 'short' vowel phonemes by linguists.³

The consonant and vowel phonemes can be combined to create two different spoken syllable types (*simple* and *complex*), which are different from the six types of written syllables (*Table 4*). Teachers should teach blending and segmenting with simple syllables before complex syllables.³

Table 4. Spoken Syllable Types

Syllable		
Type	Definition	Examples
		be = /b/ /ē/
Simple	syllables where there is a single consonant	map = /m/ /ă/ /p/
Syllable	phoneme before and/or after a vowel phoneme	bike = /b/ /ī/ /k/
		at = /ă/ /t/
Complex	syllables where two or more consonant	jump = /j/ /ŭ/ /m/ /p/
Syllable	phonemes come before and/or after the vowel	swim = /s/ /w/ /ĭ/ /m/
Syllable	phoneme in the syllable	ant = /ă/ /n/ /t/

Phonological Awareness Skills

Phonological awareness can be taught at each level (i.e., word, syllable, onset and rime, and phoneme) and includes skills such as counting, categorizing, rhyming, blending, segmenting, and manipulating (adding, deleting, and substituting). The most important skills to teach are blending, segmenting, and manipulating at the phoneme-



level (i.e., phonemic awareness).^{3,4} *Table 5* describes each skill and provides examples at various levels.

Table 5. Phonological Awareness Skills

Skill	Description	Examples (Unit of Language)
		How many words are in this sentence: <i>He</i>
counting	counting the words in a	went to the store. (WL - S)
	sentence or phrase, the	How many syllables are in the word
Counting	syllables in a word, or the	bagel? (SL)
	phonemes in a word	How many sounds are in the word <i>tap</i> ?
		(PL)
		Which word does not rhyme with the
categorizing	identifying which words	other words: cat, top, hat, or bat? (OR)
Categorizing	belong or do not belong	Which word does not start with the same
		sound: cup, cap, hat, or cat? (PL)
	recognizing: determining	Which of the following words rhyme: <i>tap</i> ,
	when two words or more	cup, swim, cap? (OR)
rhyming	words rhyme	
,9	generating: producing a	Tell me a word that rhymes with <i>fan.</i>
	word that rhymes with a	(OR)
	given word	
	putting units of language together to say a whole word	birth + day = birthday (WL – C)
blending		teach + ing = teaching (SL)
is remaining		sw + im = swim = (OR)
		/t/ /ă/ /p/ = tap (PL)
	separating units of language and saying each unit individually	Clap each word in the sentence: "I went
		swimming" (WL – S)
segmenting		campground = camp + ground (WL - C)
		teaching = teach + ing (SL)
		swim = sw + im (OR)
		tap = /t/ /ă/ /p/ (PL)
	adding: adding a unit of	Add ground after camp. (WL - C)
manipulating	language to say a new	Add -ing after run (SL)
	word	Add /t/ to beginning of rim. (PL)
	deleting: removing a unit	Remove day from birthday. (WL – C)
	of language to say a new	Remove -ing from swimming (SL)
	word	Remove /t/ from the word trim. (PL)
		Change <i>base</i> in baseball to <i>foot</i> . (WL –
		C)



Skill	Description	Examples (Unit of Language)
	substituting: changing a unit of language to say a	Change the /k/ in cat to /h/. (PL)
	new word	

Note. **WL** = Word-Level; **C** = Compound Words; **S** = Sentences; **SL** = Syllable-Level; **OR** = Onset and Rime Level; **PL** = Phoneme Level; based on Honig et al. (2018)⁴

The Importance of Phonological Awareness

- 1. Phonological awareness instruction leads to the development of the *alphabetic principle* the understanding that speech sounds are represented by letters⁵ and is crucial for *orthographic mapping* the process for storing words in the brain so their pronunciation, spelling, and meaning can be retrieved automatically^{3,6}. When children understand the alphabetic principle and can accurately and automatically map sounds to their letters, they:
 - o Spend less time focused on decoding or sounding out words, and
 - Have more space available in their memory to comprehend what they read.⁷
- 2. Some children enter kindergarten with basic phonological awareness skills (i.e., phonological sensitivity), but the majority of students will require a structured instructional approach to literacy that emphasizes *phonemic awareness*.^{3,5,8,9}
 - Phonemic awareness, the ability to identify, think about, and manipulate phonemes, is strongly associated with children's reading achievement in later grades.^{10,11,12}
 - Teachers should dedicate more instructional time for activities that develop children's phonemic awareness, than for activities that focus on phonological sensitivity (especially after kindergarten).^{3,4}
- 3. Children with and at-risk for dyslexia often have difficulties with the phonological component of language that make accurate and fluent word recognition, decoding, and spelling challenging.¹³ It is essential that these children receive structured literacy instruction⁸ and supplemental intervention that:
 - o Focuses on basic and more advanced phonemic awareness skills,
 - o Is explicit, direct, systematic, sequential, and cumulative,
 - o Is based on data and individualized to meet each student's needs, and
 - Maximizes student engagement through multisensory approaches.¹⁴

Suggested Scope and Sequence for Phonological Awareness Instruction and Intervention

There is no one agreed upon scope and sequence for phonological awareness instruction and intervention, but teachers should emphasize the most important phonological awareness skills that are related to later reading success: blending, segmenting, and manipulating (adding, deleting, or substituting).^{3,4}

Tier 1/General Education/Core Instruction

- Kindergarten: Approximately 10-15 minutes of the daily reading block should be spent on phonological awareness instruction. Teachers should begin by teaching phonological sensitivity with larger units of language (i.e., words, syllables, and onsets and rimes), but the majority of instructional time should be spent on activities that develop phonemic awareness.
- **First Grade**: Teachers should plan for 10 minutes of phonemic awareness instruction daily for the first three months of school. Teachers should focus exclusively on phonemic awareness, and only provide instruction to develop phonological sensitivity as needed.

Sample 90-minute Core Reading Block Schedules:

- Sample Literacy Blocks for grades K-5
- Sample Literacy Center Activities by Component

Tiers 2-3/Intervention

Students who have been identified through the screening process as needing additional reading intervention (through multi-tiered systems of support [MTSS], response to intervention [RTI], or dyslexia screening [SEA 217¹⁴]) should be provided with supplemental intervention to address their needs. Supplemental interventions (often described as Tier 2 or Tier 3 interventions) should be provided during the school day and should be **in addition to** the mandated 90-minute core reading block. Supplemental reading intervention lessons typically include several different lesson segments that address multiple components of reading (e.g., phonological awareness, letter-sound correspondences, decoding, spelling). Phonological awareness instruction should be one of those segments and Table 6 below provides guidelines for incorporating phonological awareness into supplemental reading lessons.

Table 6. Phonological Awareness Guidelines for Supplemental Reading Intervention*

Grade	Length	Frequency	Focus**
Kindergarten	10-15	3-5 times weekly	Phonological Sensitivity &
Kindergarten	minutes	3-5 times weekly	Phonemic Awareness
1st Grade & Above	5-10 minutes	3-5 times weekly	Phonemic Awareness

Note. *Main focus of phonological awareness instruction. Once students have been introduced to the names and shapes of letters, letters can be incorporated into phonemic awareness activities.

To determine a starting point for instruction/intervention in phonological awareness skills, we recommend that schools analyze data from screening assessments. Universal screening assessments in reading provide basic information about which students are performing on-grade level and which students might be at-risk for reading difficulties and disabilities such as dyslexia; however, screening assessments often do not provide enough information to plan individualized instruction/intervention. Level I and Level II dyslexia screeners approved for use by Indiana's Dyslexia Screening and Intervention Act (IC 20-35.5)¹⁴ can provide educators with additional data to help plan instruction/intervention. We recommend that schools:

- Administer assessments (universal, Level I, and Level II¹⁴) that measure phonemic awareness skills such as blending, segmenting, and identifying initial sounds because these provide the most useful information to plan instruction/intervention that meets the individual needs of students.
- Do not use results from assessments that measure phonological sensitivity skills (e.g., rhyming, sentence segmentation) or broad phonological processing skills (e.g., rapid naming of pictures, objects, colors, etc.)¹ to plan instruction/intervention because these types of assessments do not always provide information necessary for educators to determine specific phonological skills students have and have not mastered.

Schools/educators that do not already have a pre-existing program that adequately covers phonological awareness skills or those that want to supplement their pre-existing programs can use the suggested scope and sequence in *Table 7* to guide phonological awareness instruction/intervention.



Table 7. Suggested Phonological Awareness Scope and Sequence

		IN ELA
Grades	Sequence* (Aspect of Phonological Awareness)	Standards
N/A (Early PS	Segment Sentences (PS-WL)	N/A
Skills)	Blend Compound Words (PS-WL)	N/A
Okino,	Segment Compound Words (PS-WL)	N/A
	Blend Syllables in Multisyllable Words (PS-SL)	K.RF.3.2
	2. Segment Syllables in Multisyllable Words (PS-SL)	K.RF.3.2
	3. Manipulate (Add, Delete, Substitute) Words in Compound Words (PS-WL)	K.RF.3.5
	Manipulate (Add, Delete, Substitute) Syllables in Multisyllable Words (PS-SL)	K.RF.3.5
	Recognize/Identify Rhymes (PS-OR)	K.RF.3.1
	Generate Rhymes (PS-OR)	K.RF.3.1
	Blend Onsets and Rimes in Simple One-Syllable Words without Beginning Consonant Blends (PS-OR)	K.RF.3.3
	Segment Onsets and Rimes in Simple One-Syllable Words without Beginning Consonant Blends (PS-OR)	K.RF.3.3
Kindergarten (Basic PS &	Blend Onsets and Rimes in Complex One-Syllable Words Beginning with Consonant Blends (PS-OR)	K.RF.3.3
PA Skills)	Segment Onsets and Rimes in Complex One-Syllable Words Beginning with Consonant Blends (PS-OR)	K.RF.3.3
	Segment the First Sound in One-Syllable Words with	K.RF.3.4
	Simple Syllables (PA-PL)	1.RF.3.4
	Blend Simple One-Syllable Words with 2-3 Phonemes (PA-PL) 1. Blend words that begin with continuous sounds 2. Blend words that begin with stop sounds	K.RF.3.4
	Segment Simple One-Syllable Words with 2-3	K DE 0.4
	Phonemes (PA-PL)	K.RF.3.4
	Count the number of phonemes	1.RF.3.5
	2. Say each phoneme3. Identify a phoneme's position in a word	
1st Grade and	Blend Onsets and Rimes in One-Syllable Words with	
Above (Basic	Simple and Complex Syllables (PS-OR)	K.RF.3.3
PS Skills-	Segment Onsets and Rimes in One-Syllable Words with	
Only if	Simple and Complex Syllables (PS-OR)	K.RF.3.3
Needed)		



		IN ELA
Grades	Sequence* (Aspect of Phonological Awareness)	Standards
1st Grade and Above (Basic & Advanced PA Skills)	Segment the First Sound in One-Syllable Words with Simple and Complex Syllables (PA-PL) Blend Simple One-Syllable Words with 2-3 Phonemes (PA-PL) 1. Blend words that begin with continuous sounds 2. Blend words that begin with stop sounds Segment Simple One-Syllable Words with 2-3 Phonemes (PA-PL) 1. Count the number of phonemes 2. Say each phoneme 3. Identify a phoneme's position Blend Complex One-Syllable Words with 3-5 phonemes (PA-PL) Segment Complex One-Syllable Words with 3-5 phonemes (PA-PL)	K.RF.3.4 1.RF.3.4 K.RF.3.4 K.RF.3.4 1.RF.3.5 1.RF.3.5
	Manipulate (Add, Delete, Substitute) Phonemes in One- Syllable Words (PA-PL)	1.RF.3.3

Note. *These are sequenced by approximate level of difficulty, from easiest to most difficult; **WL** = Word-Level; **SL** = Syllable-Level; **OR** = Onset and Rime Level; **PL** = Phoneme Level; **PS** = Phonological Sensitivity; **PA** = Phonemic Awareness

Explicit Instruction in Phonological Awareness

This section provides a routine/approach that teachers can use to explicitly and systematically teach phonological awareness skills without a pre-existing program or curriculum. It also addresses how to incorporate adequate practice, cumulative review, and multisensory approaches to maximize student engagement during phonological awareness instruction. The explicit instructional routine in *Table 8* can be used to introduce new phonological awareness skills to students. This routine can be adapted for word, syllable, onset and rime, and phoneme-level skills. Additional examples of explicit phonological awareness instructional routines and lessons plans are available in the Phonological Awareness Resources section of this toolkit.



Table 8. Sample Explicit Phonological	Awareness Lesson Segment for New Skill
, ,	3

Phonological Awareness Lesson Segment: New Skill Introduction and Practice			
Skill	Blending simple one-syllable words with 2 phonemes		
Prerequisite Skills	blending compound words, syllables, and onsets & rimes (provide short review/warm-up if necessary)		
Materials	2 counters for each student and the teacher (multisensory element), list of one-syllable words (simple syllables) with two phonemes (see		



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	Step 3: Independent Practice (You Do)	Your turn. Touch each counter as I say the sounds. /ă/. Students touch the first counter. /t/. Students touch the second counter. Put the sounds together. What word? Students push the two counters together and say, 'at.'
	Repeat Steps 1-3	Repeat steps 1-3 for two or three more simple one-syllable words (e.g., me, it, shy) until students are beginning to show proficiency. Once students begin to demonstrate they understand the concept, move to guided and/or independent practice with new words.
	Step 4: Additional Guided & Independent Practice	Now that I've shown you how to put sounds together in words and we've practiced some words all together, let's try putting together the sounds in some new words. Touch each counter as I say the sounds. /b/. Teacher and students touch the first counter. /ē/. Teacher and students touch the second counter. Put the sounds together. What word? Teacher and students push the two counters together and say, 'be.' Your turn. Touch each counter as I say the sounds. /b/. Students touch the first counter. /ē/. Students touch the second counter. Put the sounds together. What word? Students push the two counters together and say, 'be.'
	Step 5: Additional Independent Practice	Your turn. Let's practice all the words we've learned in this lesson. Touch each counter as I say the sounds. /sound 1/. Students touch the first counter. /sound 2/. Students touch the second counter. Put the sounds together. What word? Students push the two counters together and say, '/word/.'



During guided and independent practice, provide immediate corrective feedback when students make an error. Return to modeling (step 1) and then have students practice again:

Let's try that again. My turn. Listen to me say each sound and put them together. /b/. /ē/. The teacher touches a counter for each sound. What word? The teacher moves the two counters together and says, 'be.' Now, let's do it all together. Listen to me say the sounds. /b/. /ē/. The teacher and students touch a counter for each sound. What word? The teacher and students move the two counters together and say, 'be' together. Your turn. /b/. /ē/. The students touch a counter for each sound. What word? The students move the two counters together and say, 'be.'

Lesson Segment Notes

- Lessons can be adapted to include any kind of multisensory movement, such as chips, counters, clapping, tapping, snapping, etc. It is important to clearly explain and demonstrate how to use the multisensory procedure before expecting students to use it independently.
- Through the entire lesson segment, all students should have frequent and multiple opportunities to respond. Teachers should use procedures that engage all students, such as choral responses, and should limit calling on individual students.

Practice Activities for Phonological Awareness

Practice is an important component of all explicit, instructional approaches. Without appropriate guided and independent practice, students will not be able to acquire skills to mastery-level and they will not be able to retain those skills over time. 15 Practice (guided and independent) should be provided AFTER a skill has been modeled/demonstrated (I Do) and teachers should provide affirmative or corrective feedback during practice activities. Additional practice activities are available in the Phonological Awareness Resources section of this toolkit. Remember:

- These practice activities are useful for warm-up, cumulative review, or during student centers.
- These activities do NOT explicitly model phonological awareness skills.
- Teachers may have to model/demonstrate how to complete these activities, before allowing students to use them during guided or independent practice.



Video Examples of Phonological Awareness Instruction and Practice

Video examples of phonological awareness instruction and practice are available in the Phonological Awareness Resources section of this toolkit. As a reminder, video clips of instructional practices that are publicly available online do not always demonstrate all of the recommended instructional approaches. These videos only provide a sample of what phonological awareness instruction might look like at different grade levels.

General Teaching Tips for Phonological Awareness

- Phonological awareness skills are oral language skills that do not involve connecting units of language (e.g., words, syllables, onsets, phonemes) to the printed alphabet or letters.^{1,3,4}
 - Once students learn the names and shapes of letters, letters can be incorporated into phonemic awareness lessons; however, this technically makes the lesson focus on sound-symbol relationships, decoding (sounding out), or encoding (spelling).
- Always begin with larger units of language (words, syllables, and onsets and rimes) then move to activities with individual phonemes.^{3,4,16}
- Spend the majority of instructional time teaching phonemic awareness because it is most closely related to reading and spelling achievement.
- Teach only one phonological awareness skill per lesson.⁴
- Pronounce phonemes/sounds correctly. Do not pronounce stop sounds with an /uh/ or vowel sound after them. For example, do not say /buh/ for /b/.³
- Carefully select words for phonological awareness instruction, depending on the skill being taught⁴:
 - Words that begin with continuous phonemes are easier for students to blend than those that begin with stop phonemes.
 - o Simple syllables are easier to blend and segment than complex syllables.

IDOE Resources for Teaching Phonological and Phonemic Awareness

IDOE Phonological Awareness Word List

Additional Resources for Phonological Awareness

Additional phonological awareness resources are available in the <u>Phonological Awareness Resources section</u> of this toolkit.

Commercial Phonological and Phonemic Awareness Programs

The resources listed below are examples of commercial programs that address phonological awareness skills. These programs are not endorsed by the Indiana Department of Education nor the Indiana University system.

- Heggerty Phonemic Awareness Curriculum by Literacy Resources LLC
- Phonemic Awareness in Young Children: A Classroom Curriculum by Marilyn Adams, Barbara Foorman, Ingvar Lundberg, and Terri Beeler
- Road to the Code: A Phonological Awareness Program for Young Children by Benita Blachman, Eileen Ball, Rochella Black, and Darlene Tangel
- <u>Lindamood Phoneme Sequencing Program for Reading, Spelling, and Speech by</u> Lindamood-Bell Learning Processes
- The Intensive Phonological Awareness Program



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