Phonemic Awareness
Notes for Initial Instruction of All Students
(Include grade levels with specific notes when appropriate)

Teachers must teach phonemic awareness (i.e. the conscious understanding that a spoken word is made up of a sequence of speech sounds) directly and explicitly at an early age (kindergarten). Teaching phonological awareness should be a top priority and opportunities for students to engage in PA activities should be plentiful, frequent, brief, and fun.

Young children who receive specific training in phonemic awareness are able to read more quickly than children of similar backgrounds who do not receive training. The benefits of this instruction are maintained through 3rd grade.

Children must be trained to hear the individual sounds (phonemes) of their language. They must be able to disconnect or "unglue" sounds in words in order to use an alphabetic writing system. This skill is an ESSENTIAL PREREQUISITE for learning to read and spell.

Strategy for teaching phonemic awareness:
1. In teaching phonemic awareness, the focus of all activities should be on the sounds of words, not on letters or spellings.
2. Use strategies that make phonemes prominent in children's attention and perception. For example, model specific sounds, such as /s/ in the word sat, and ask children to produce each sound in isolation and in many different words until they are comfortable with the sound and understand its nature.
3. Begin with simple words and simple challenges, e.g., listen for initial /s/ in sat, sit, sip, and sad or for long /e/ in me, see, bee.
4. Teach students to blend phonemes into words. Begin by identifying just one phoneme, e.g., /m/-ilk, /s/-at, working gradually toward blending all the phonemes in words, e.g., /s/-/a/-/t/.
5. Teach students to identify the separate phonemes within words, e.g., what is the first sound of soup? What is the last sound of kiss? Beginning phonemes are easier to identify than final phonemes.
6. Once students are comfortable listening for individual phonemes, teach them to break up words into component sounds, e.g., /m/-/oo/-/s/="moose."
7. Create a sequence of segmenting and blending activities to help students develop an understanding of the relationship between sounds in words.
8. Provide children with more support when first teaching a task. For example, model a sound or strategy for making the sound, and have the children use the strategy to produce the sound. Model and practice several examples

The lack of phonemic awareness is the most powerful determinant of the likelihood of failure to learn to read.

Phonemic awareness activities include a variety of games and activities designed to direct students' attention to the sounds, rather than just the meanings, of spoken words. Examples include detecting and producing rhymes and alliterative sequences in songs and speech, identifying objects in the environment whose names begin or end with the same sound, clapping to indicate the number of syllables or phonemes in a spoken word.

Phonemic awareness instruction should begin before instruction in sound-spelling relationships and be continued throughout the teaching of sound-spelling relationships.

Teach phonemic awareness in kindergarten and first grade.

National Reading Panel (NRP):
The NRP examined the scientific evidence relevant to the impact of phonemic awareness instruction on **reading and spelling** development. NRP selected to review phonemic awareness instruction for review and analysis because correlational studies have identified phonemic awareness and letter knowledge as the two best school-entry predictors of how well children will learn to read during their first 2 years in school.

Phonemes are the smallest units constituting spoken language. English consists of about 41 phonemes. Phonemes combine to form syllables and words. A few words have only one phoneme, such as "a" or "oh." Most words consist of a blend of phonemes, such as "go" with two phonemes, or "check" with three phonemes, or "stop" with four phonemes. Phonemes are different from **graphemes**, which are units of written language and which represent phonemes in the spellings of words. Graphemes may consist of one letter, for example, P, T, K, A, N, or multiple letters, CH, SH, TH, -CK, EA, -IGH, each symbolizing one phoneme.

Phonemic awareness refers to the ability to focus on and **manipulate phonemes** in spoken words. The following tasks are commonly used to assess children's PA or to improve their PA through instruction and practice:
1. Phoneme isolation, which requires recognizing individual sounds in words, for example, "Tell me the first sound in paste." (/p/)
2. Phoneme identity, which requires recognizing the common sound in different words. For example, "Tell me the sound that is the same in bike, boy, and bell." (/b/)
3. Phoneme categorization, which requires recognizing the word with the odd sound in a sequence of three or four words, for example, "Which word does not belong? bus, bun, rug." (rug)
4. Phoneme blending, which requires listening to a sequence of separately spoken sounds and combining them to form a recognizable word. For example, "What word is /s/ /k/ /u/ /l/?" (school)
5. Phoneme segmentation, which requires breaking a word into its sounds by tapping out or counting the sounds or by pronouncing and positioning a marker for each sound. For example, "How many phonemes are there in "ship"? (three: /sh/ /i/ /p/)
6. Phoneme deletion, which requires recognizing what word remains when a specified phoneme is removed. For example, "What is "smile" without the /s/?" (mile)

PA is thought to contribute to helping children learn to read because the structure of the English writing system is alphabetic. It is not easy for students to figure out the system because the spoken language is seamless and has no breaks in speech signaling where one phoneme ends and another begins while the written language, comprised of graphemes, requires students to distinguish the distinct separate phonemes in pronunciations of words so that they can be matched to graphemes.

NRP findings:
1. Teaching children to manipulate phonemes in words was highly effective across all literacy domains and outcome (effect on PA outcomes 0.86, for reading outcomes 0.53, for spelling outcomes 0.59)

2. The Panel concluded that "phoneme blending" and "phoneme segmentation" training benefited children's reading more than multiple skills training.
3. Effect sizes of PA instruction **on learning phonemic awareness**—
   a. Larger effect size when children received focused and explicit instruction on one or two PA skills than when they were taught a combination of three or more PA skills.
   b. Instruction that taught **phoneme manipulation with letters** helped normally developing readers and at-risk readers acquire PA better than PA instruction **without letters**.
   c. Larger effect when students were taught in small groups versus individually or whole class.
   d. Larger effect size when treatments lasted 5-18 hours than shorter or longer treatment periods.
   e. Larger effect size for beginning readers at risk for reading failure and normally progressing readers than for older disabled readers.
   f. Larger effect size for children in preschool and kindergarten than for students in 1st grade or above.
   g. SES level exerted no impact on effect size (low and mid-to-high SES children benefited similarly).
4. Effect of PA instruction **on learning to read**—
   a. Effects of PA training on reading lasted well beyond the end of training. PA instruction produced positive effects on both word reading and pseudoword reading, indicating that it helps children decode novel words as well as remember how to read familiar words.
   b. PA training was effective in boosting reading comprehension, although the effect size was smaller than for word reading.
   c. PA instruction helped all types of children improve their reading, including normally developing readers, children at risk for future reading problems, disabled readers, K-6 students, children across various SES levels, and children learning to read in English as well as in other languages.
   d. Effect sizes of PA instruction **on learning to read:**
      i. Larger effect size when teaching focused on one or two types of PA manipulations than when teaching included 3 or more PA skills.
      ii. Instruction that taught **phoneme manipulation with letters** helped normally developing readers and at-risk readers acquire PA better than PA instruction **without letters**.
      iii. Blending and segmenting instruction exerted a significantly greater effect than did multiple-skill instruction.
      iv. Larger effect when students were taught in small groups versus individually or whole class.
      v. The longer the training program, the smaller the effect size.
      vi. Large effect sizes were obtained in studies of at-risk readers, with moderate effect sizes obtained for disabled and normally developing readers.
      vii. Much larger effect size for preschoolers than students in other grades.
      viii. SES related to effect size: mid-to-high SES associated with larger effect sizes than low SES.
5. Effect of PA instruction **on learning to spell**—
   a. Teaching PA was found to help children learn to spell, and its effect lasted well beyond the end of training.
   b. Some, but not all, types of learners benefited from PA instruction:
      i. Helped kindergarteners and 1st graders learn to spell

      ii.   Benefited children at risk for future reading problems and normally developing readers

     iii.   Boosted spelling skills in low SES as well as mid-to-high SES children

     iv.   Was **not** effective for improving spelling in disabled readers

c.   Effect sizes of PA instruction **on learning to spell**

      i.   Effect size for disabled readers was minimal.

     ii.   Effect size for at-risk and normal readers did not differ based upon whether one or two or multiple PA skills were taught.

    iii.   Effect size for at-risk and normal readers did not differ based upon whether training was conducted with individuals, small groups or whole class.

    iv.   Effect size for at-risk and normal readers did not differ based upon how long treatment occurred.

     v.   Effect size for at-risk and normal students was larger when children were taught to manipulate phonemes with letters than without letters.

    vi.   Larger effect size for Kindergarten than for 1st grade students.

   vii.   Larger effect size for mid-to-high SES children compared to low SES children.

The processes involved in writing words, either by generating approximate spellings of the words or by retrieving correct spellings from memory, require the PA skill of "phonemic segmentation."