



*Alignment of*  
**K-3 Reading Rods® Phonics Program**  
*with Report of the National Reading Panel*  
*and Put Reading First*

## ETA/Cuisenaire® Reading Rods® Phonics Program Research Base

There is perhaps no greater challenge facing elementary educators today than that of ensuring reading success for every child in every classroom. Children come to school from diverse backgrounds with a wide range of skills and experiences with language. Some are already reading, while others have yet to learn the letters of the alphabet or how to hold a book. Some do not speak English or have had limited oral language experiences. Yet by the end of third grade, every one of them is expected to read on grade level with their peers across the country. How can such a feat be accomplished? Is there evidence that some approaches to reading instruction work better than others?

**The National Reading Panel.** In response to a Congressional mandate, a 14-member panel was convened to answer that question by examining existing reading research and identifying successful methods for reading instruction. That group, the National Reading Panel (NRP), found compelling evidence that in order to be successful readers, children in Kindergarten through Grade 3 must learn to use a specific set of skills. In its report, *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction* (2000), the panel identifies these essential skills as phonemic awareness, phonics, fluency, vocabulary, and comprehension. Of these skills, the panel found overwhelming evidence that the first

two are critical first steps toward reading success. Without the ability to hear, identify, and manipulate the sounds in words (phonemic awareness), and to decode and encode them in print (phonics), children will struggle to learn new words, fail to develop fluency, and, ultimately, comprehend little of what they read.

**Put Reading First.** To provide teachers with practical guidance for using the information contained in the 480-page NRP report, the Partnership for Literacy published *Put Reading First: The Research Building Blocks for Teaching Children to Read K–3* (September, 2001). This practical booklet summarizes what the NRP discovered about teaching children to read, explains the research evidence for each of the five essential elements, and describes proven strategies for teaching reading skills.

These two publications have already had a profound impact on how schools select materials for reading instruction. In fact, schools that have applied for or expect to receive funding through Reading First, ESEA, or other federal programs must satisfactorily explain the research base for any reading programs or materials they intend to purchase.

**The Reading Rods Phonics Program’s explicit, systematic design supports a developmental sequence for learning.** ETA/Cuisenaire developed the *Reading Rods Phonics Program* based on current scientific

research that emphasizes the importance of explicit, systematic instruction for teaching reading, beginning with alphabet knowledge and phonological awareness—both proven predictors of success in learning to read (Adams, 1990; Snow et al.; 1998). Reading Rods Phonics follows a developmental approach that is grounded in this research. The Teacher’s Guide, instructional materials and manipulatives work together to support students at every stage of their literacy development, and the physical manipulation, color-coding, and sound-matching activities with the rods allow students to use multiple modalities to explore sound-symbol relationships (Gardner, 1993).

**Reading Rods Manipulative Kits add a hands-on dimension to research-based reading instruction.** We know that phonological awareness can be taught (Blachman, 2000). Students using the Reading Rods Phonics Program begin to develop this awareness by using picture rods from the *Alphabet and Phonemic Awareness Kit* to help them learn to recognize rhyming words, count syllables, and identify and manipulate phonemes in words. The alphabet rods allow children to physically manipulate letters that represent phonemes in much the same way that children learn to manipulate phonemes by placing counters in Elkonin boxes (Elkonin, 1973). The letter rods also help students develop alphabet knowledge, including naming and sequencing of letters. Reading Rods help

students develop phonemic awareness using a variety of activities, including segmenting, blending, deleting, adding, and substituting phonemes to make new words (National Reading Panel, 2001)

Rather than relying solely on individual sound to encode and decode words, successful readers use onsets (initial phonemes) and rimes (word families) to read and spell new words by analogy with the ones they already know (National Reading Panel, 2001). Using word patterns and letters in the *Initial Consonant and Word Families Kit* and the *Short Vowel Word Families Kit*, students learn to recognize and use these patterns, an approach that is particularly effective in developing children's spelling abilities (Cunningham, 1995).

While we know that students do not learn sounds in any set sequence, some form of systematic instruction is necessary for most students in order to learn to read (National Reading Panel, 2001). The *Phonics Word-Building Kit* provides instruction and practice in using blends before digraphs and short vowel sounds before long vowel sounds or *r*-controlled vowels. However, Reading Rods Phonics is flexible, and the lessons may be taught using the sequence provided or the one built into any basal or balanced literacy program.

Children's knowledge of the rules of spelling develops in fairly predictable stages, from understanding the alphabetic principle to recognizing patterns across words, and finally, to grasping how meaning impacts spelling. This final stage is sometimes referred to as the

“derivational constancy stage” (Bear et al., 1999). Structural analysis helps children understand the meaning of words by showing them how prefixes, suffixes, root words, and base words can be combined in novel ways (Blachowicz & Fisher, 2002). Once children reach the derivational constancy stage and can understand that parts of words can mean the same thing even if they are pronounced differently, teachers can integrate vocabulary and spelling instruction. The *Prefixes, Suffixes, and Root Words Kit* helps make the meaning and spelling patterns clear and, through the use of color codes, develops students' understanding of both prefixes and suffixes. It also develops students' vocabulary by teaching them Greek and Latin roots (Blachowicz & Fisher, 2002).

At the same time, students are acquiring print awareness and an ever-increasing sight-word vocabulary. When students read predictable books that use the same set of words in a sequence of sentences, they receive instruction in sight word identification and develop the concept of word—the understanding that a word is bounded by white spaces in text (Bear et al., 1999). The *Simple Sentences Kit* in Reading Rods Phonics addresses these same two skills. Students develop immediate recognition of sight words as they build predictable sentence patterns repeatedly using the same words, and they develop their concept of word by physically removing words from and adding words to a sentence.

The rods in both the *Simple Sentences Kit* and the *Sentence-Construction Kit* are color-coded by part of speech. This allows students to

understand how English works. All students have some proficiency with language prior to coming to school. They have what Hartwell (1985) called Grammar 1—the grammar in our heads that allows us to form words in patterns that convey meaning. By using a sight-word approach to the systematic study of parts of speech, the rods in both kits help students develop their metalinguistic knowledge (Hartwell's Grammar 5). That is, the rods make explicit what students know implicitly, thus helping to develop their understanding of how language functions and how it is used for different purposes. The sentence kits provide an arena in which students and teachers can talk about how oral and written language work.

Finally, these two sentence kits introduce students to compound words, contractions, and punctuation as well as the concepts of synonyms, antonyms, and homonyms. Introducing these terms provides students with the metalinguistic knowledge to manipulate language and, thus, be comfortable with all aspects of literacy (Blachowicz & Fisher, 2002). For older students, the *Sentence-Construction Kit* also allows ample opportunities for students to learn and practice a variety of grammar, usage, and punctuation skills in a fun and interesting way.

**Elements of the teaching method.** To accomplish the sequential development detailed above, the letters, word parts, and words on each rod have been carefully chosen and sequenced. But the Reading Rods manipulatives themselves are only half the story. Without a research-based teaching method to support their use, Reading Rods

would be little more than a clever toy. Like the rods, the instructional support is both intentional and systematic in content and format. It is designed to help students develop knowledge about the predictable elements of the English language.

The rods provide additional support for learners through the function-based color-coding of the rods and an interlocking design that requires learners to connect letters and words from left to right, thus reinforcing the concept of directionality in print when reading and writing in English. This unique design also prevents the random movement commonly observed when children use regular letter tiles. The program also explicitly controls the content and placement of letters on the rods themselves, sometimes making a letter or word pattern constant (the same printing on all sides of a rod) and sometimes randomized (different letters, different letter case, or different word

patterns) on at least three sides of each rod, depending on the stage of literacy development and the purpose of the rod in specific skill development.

**Explicit, highly structured lesson plans.** The structure of every lesson follows a consistent model for explicit instruction. First, the teacher uses the manipulatives to model or explain the lesson objective. Next, the students replicate what they've observed under the teacher's direction, building with the rods and discussing their discoveries along the way. The teacher ends the session by summarizing and reinforcing the objective. Students are then given a guided practice activity, after which the teacher conducts a brief, informal assessment to make sure every student has achieved the objective. Students are then assigned independent practice during which they use the Reading Rods to apply what they have learned. This is almost always

accomplished with the following sequence. Students are asked to

- FIND the necessary Reading Rods;
- BUILD the trains, words, or sentences as pictured in the model;
- SAY what is on the rods and check to make sure it's right; and
- WRITE or draw what is on the rod in a "sort," label, or sentence.

Reading Rods Phonics employs a strong and solid theoretical and research base. The charts on the following pages show how Reading Rods Phonics is aligned with both the National Reading Panel research and *Put Reading First*. They document the overwhelming evidence for using Reading Rods Phonics to teach phonemic awareness, phonics, and vocabulary as part of your complete research-based reading program.

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**Part I - Alphabet and Phonemic Awareness Instruction**  
**FINDINGS and DETERMINATIONS of the NATIONAL READING PANEL**  
**and the RECOMMENDATIONS of PUT READING FIRST**

How does the Alphabet and Phonemic Awareness instruction in Reading Rods Phonics align with the research cited by the National Reading Panel in its report *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implication for Reading Instruction* and in *Put Reading First: The Research Building Blocks for Teaching Children to Read*?

<b>Report of the National Reading Panel</b>		<b>Put Reading First</b>	
<i>Report of the National Reading Panel</i>	<i>Reading Rods Phonics Program</i>	<i>Put Reading First</i>	<i>Reading Rods Phonics Program</i>
Page 7  "First, correlation studies have identified Phonemic Awareness and letter knowledge as the two best school entry predictors of how well children will learn to read during the first two years of instruction."	K Teacher's Guide, Page 8  In the Introduction, Dr. Peter Fisher acknowledges these two best school entry predictors, which are the rationale for the alphabet and phonemic awareness lessons that follow in Units 1 and 2. (See Table of Contents.)	Page 5  "What does scientifically based research tell us about phonemic awareness instruction? Phonemic Awareness can be taught and learned."	K Teacher's Guide, Page 8  Dr. Peter Fisher describes how children build their phonemic awareness using picture rods to identify and manipulate phonemes in words. Unit 1 focuses children on first sounds in words, blending, segmenting, and more.
Page 7  "Overall findings showed that teaching children to manipulate phonemes in words was highly effective under a wide variety of teaching conditions with a variety of learners across a range of grade and age levels..."	K Teacher's Guide, Page 8  In the Introduction, Dr. Fisher explains how Reading Rods are used to facilitate the manipulation of phonemes in a manner similar to Elkonin Box activities. Reading Rods brings an added dimension to the manipulation of phonemes by virtue of its color-coded, tangible, three-dimensional design. Reading Rods are used in both small and large groups with a variety of K-2 learners.	Page 8  "Phonemic awareness instruction can help essentially all of your students learn to read, including preschoolers, kindergartners, first graders who are just starting to read, and older, less able readers."	K Teacher's Guide, Page 8  Dr. Fisher explains that many young learners need to know how speech can be broken into sentences, words, syllables, and phonemes. Phoneme awareness activities are imbedded in Units 1-2 in K, and in Unit 1 at Grades 1-3. (See tables of content for K-3.)
Page 7  "...and that teaching phonemic awareness to children significantly improves their reading more than instructions that lack any attention to Phonemic Awareness."	K Teacher's Guide, Pages 33, 97, 147, and so on.  At the conclusion of the first unit and every unit thereafter, children are given a mini-book in which they can transfer the skills learned in the preceding unit. The mini-book allows children to use phonics in context as they are learning new skills.	Page 8  "Your instruction should be explicit about the connection between phonemic awareness and reading."	K Teacher's Guide, Page 90  At the conclusion of this lesson, the teacher explains to children that they will use the phonemes from their Reading Rods to read, create, and say words from a book, thereby emphasizing the connection between phonemic awareness and reading.

<b>Report of the National Reading Panel</b>	
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<p>Page 8</p> <p>"PA instruction also helped normally achieving children to learn to spell, and the effects lasted well beyond the end of training."</p>	<p>K Teacher's Guide, Pages 50, 66, 96, and so on</p> <p>After each unit, students write journal entries, beginning with writing their names and gradually progressing toward writing entries about school and other familiar topics. The words provided in the Idea Box are words students built with Reading Rods in the preceding unit. As they complete their entries, children discuss their spelling strategies.</p>
<p>Page 8</p> <p>"Specifically, the characteristics of PA training found to be the most effective in enhancing PA, reading and spelling skills included explicitly and systematically teaching children to manipulate phonemes with letters..."</p>	<p>K Teacher's Guide, Page 116</p> <p>In this lesson, the teacher uses overhead tiles to build words with the students systematically, letter by letter, and then substitutes letters to change the sound and meaning of the words. Then students follow up with sorting activities.</p>

<b>Put Reading First</b>	
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<p>Page 6</p> <p>"Teaching phonemic awareness, particularly how to segment words into phonemes, helps children learn to spell."</p>	<p>K Teacher's Guide, Pages 27, 114</p> <p>In a lesson using picture Reading Rods, students look at the picture and under the teacher's direction, practice saying the word, sound-by-sound.</p> <p>In a lesson using the letter Reading Rods, students are directed to build simple CVC words, segmenting the sounds as they construct them.</p>
<p>Page 5</p> <p>"Effective PA instruction teaches children to notice, think about and work with (manipulate) sounds."</p> <p>Page 8</p> <p>"Teaching your students to manipulate phonemes along with letters can also contribute to their reading success."</p>	<p>K Teacher's Guide, Page 8</p> <p>Dr. Fisher explains how a phoneme, the smallest unit of sound, can change the meaning of a word. Many lessons that follow are designed to demonstrate and involve children in activities that help them experience this language concept.</p> <p>K Teacher's Guide, Page 119</p> <p>This lesson helps students practice building words by manipulating phonemes with letter rods. Students then share their rationale for using certain letters to represent sounds. They also create word cards from which they read the words they have developed.</p>

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<p>Page 8</p> <p>"...focusing the instruction on one or two types of phoneme manipulation rather than multiple types..."</p>	<p>K Teacher's Guide, Page 3</p> <p>In Reading Rods Phonics, each phoneme is taught in a separate lesson. As depicted in the Table of Contents, children first use Reading Rods to study phoneme manipulation with special emphasis on blending and segmenting. They then use Reading Rods to systematically study initial consonants, short vowels, CVC words, and more.</p>
<p>Page 8</p> <p>"...and teaching children in small groups."</p>	<p>K-3 Teacher's Guides and Kits</p> <p>The Reading Rods Phonics program and manipulative kits are organized for introducing concepts to the whole class, then teaching and reinforcing skills in instructional groups of 4-8 children.</p>

<b>Put Reading First</b>	
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<p>Page 7</p> <p>"Children who receive instruction that focuses on one or two types of phoneme manipulation make greater gains in reading and spelling than do children taught three or more types of manipulation."</p> <p>Page 8</p> <p>"You can use a variety of teaching methods that contribute to children's success in learning to read. However, teaching one or two types of phoneme manipulation—specifically blending and segmenting phonemes in words—is likely to produce greater benefits to your students than teaching several types of manipulation."</p>	<p>K Teacher's Guide, Page 3</p> <p>The Table of Contents for Unit 1 lists separate lessons for each phoneme taught. All of the lessons put Reading Rods in the hands of children and require them to manipulate the rods to change sounds in words. Special emphasis is placed on blending, segmenting, and applying these manipulations to the spelling of simple CVC words.</p> <p>Page 3</p> <p>Phoneme manipulation and blending activities run throughout all lessons in which children use Reading Rods. As they connect rods together and rebuild words by reconnecting rods, they say the sounds they are manipulating, separately and together, first segmenting then blending.</p>
<p>Page 9</p> <p>"In general, small group instruction is more effective in helping your students acquire phonemic awareness and learn how to read."</p>	<p>K Teacher's Guide, Pages 4-5</p> <p>Letters and words are available on Pocket Chart Cards and Overhead Tiles for whole class or large group teaching. Students then work together with the teacher in groups of 4-8 to learn and practice the skill using Reading Rods.</p>

<b>Report of the National Reading Panel</b>	
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<p>Page 8</p> <p>"First, PA training does not constitute a complete reading program."</p> <p>"Second, there are many ways to teach PA effectively."</p>	<p>K Teacher's Guide, Pages 6-9</p> <p>The phonemic awareness training that occurs in Reading Rods Phonics is preliminary to the broader experience of a complete reading program. Reading Rods Phonics is careful to begin with phonemic awareness training in Kindergarten and provides opportunities to continue or revisit this training throughout Grades 1–3. Concurrently, mini-books, book review pages, and journal pages are introduced as students move towards a complete reading program.</p> <p>The many ways in which phonemic awareness is taught in Reading Rods Phonics include both large and small group instruction, manipulative activities, pocket chart and board game activities, listening activities, and more.</p>

<b>Put Reading First</b>	
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<p>Page 9</p> <p>"Over the school year, your entire phonemic awareness program should take no more than 20 hours."</p> <p>Page 5</p> <p>"Teachers use many activities to build phonemic awareness, including:</p> <ul style="list-style-type: none"> <li>▪ phonemic isolation</li> <li>▪ phonemic identity</li> <li>▪ phonemic categorization</li> <li>▪ phonemic blending</li> <li>▪ phonemic segmentation."</li> </ul> <p>Page 6</p> <p>"Phonemic awareness instruction helps children learn to read. Phonemic awareness instruction aids reading comprehension primarily through its influence on word reading."</p> <p>Page 9</p> <p>"Assessment will let you know which students do and do not need instruction, which students should be taught the easier types of manipulation (such as identifying initial sounds in words) and which should receive instruction in more advanced types (such as segmenting, blending, deletion/addition and substitution)."</p>	<p>K Teacher's Guide, Page 3</p> <p>In the Table of Contents, Units 1 and 2 list a total of 32 lessons that focus on phonemic awareness, alphabet awareness, and print awareness. Each lesson takes 15 to 20 minutes. Extending the concept from each lesson, writing in the log, and reading mini-books adds additional time, but overall, phonemic awareness is taught less than 20 hours.</p> <p>K Teacher's Guide, Pages 20-27</p> <p>These early lessons focus on phonemic isolation, identity, categorization, blending, and segmentation.</p> <p>K Teacher's Guide, Page 33</p> <p>At the end of each unit, teachers engage students in the use of a mini-book in which they apply skills they have learned and identify words they have built, thereby acquiring a beginning reading vocabulary.</p> <p>K Teacher's Guide, Page 16</p> <p>Every lesson includes suggestions for assessing the content taught. In addition, children's written responses on activity pages demonstrate the level of individual student learning. The activity sheet for each lesson is reproduced in the Teacher's Guide, and answers are provided in colored ink.</p>

## Alphabet and Phonemic Awareness Studies Included in the NRP Meta-Analysis

*Following are studies included in the National Reading Panel's meta-analysis that support the instructional design of Reading Rods Phonics.*

Ball, M.E., & Blachman, B. (1991). Does phoneme awareness training in kindergarten make a difference in early word recognition and developmental spelling? *Reading Research Quarterly*, 26, 49–66.

Blachman, B.; Tangel, D.; Ball, E.; Black, R.; & McGraw, D. (1999). Developing phonological awareness and word recognition skills: A two-year intervention with low-income, inner-city children. *Reading and Writing: An Interdisciplinary Journal*, 11, 293–273.

Davidson, M., & Jenkins, J. (1994). Effects of phonemic processes on word reading and spelling. *Journal of Educational Research*, 87, 148–157.

Foorman, B.; Francis, D.; Novy, D.; & Liberman, D. (1991). How letter-sound instruction mediates progress in first-grade reading and spelling. *Journal of Educational Psychology*, 83, 456–469.

Fox, B., & Routh, D. (1984). Phonemic analysis and synthesis as word-attack skills: Revisited. *Journal of Educational Psychology*, 76, 1059–1064.

Fulwiler, G., & Groff, P. (1980). The effectiveness of intensive phonics. *Reading Horizons*, 21, 50–54.

Hohn W., & Ehri, L. (1983). Do alphabet letters help pre-readers acquire phonemic segmentation skill? *Journal of Educational Psychology*, 75, 752–762.

Kozminsky, L., & Kozminsky, E. (1995). The effects of early phonological awareness training on reading success. *Learning and Instruction*, 5, 187–201.

Stuart, M. (1999). Getting ready for reading: Early phoneme awareness and phonics teaching improves reading and spelling in inner-city second language learners. *British Journal of Educational Psychology*, 69, 587–605.

Traweek, K., & Berninger, V. (1997). Comparisons of beginning literacy programs: Alternative paths to the same learning outcome. *Learning Disability Quarterly*, 20, 160–168.

Vickery, K.; Reynolds, V.; & Cochran, S. (1987). Multisensory teaching approach for reading, spelling, and handwriting, Orton-Gillingham based curriculum, in a public school setting. *Annals of Dyslexia*, 37, 189–200.

**PART II – Phonics**  
**FINDINGS and DETERMINATIONS of the NATIONAL READING PANEL**  
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<b>Report of the National Reading Panel</b>		<b>Put Reading First</b>	
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Page 9  “The meta-analysis revealed that systematic phonics instruction produces significant benefits for students in kindergarten through 6 <sup>th</sup> grade and for children having difficulty learning to read. Systematic synthetic phonics instruction was significantly more effective in improving low socioeconomic status (SES) children’s alphabetic knowledge and word reading skills than instructional approaches that were less focused on these initial reading skills.”	K Teacher’s Guide, Page 8  In the Introduction, Dr. Fisher says, “Not only does this kit provide instruction and practice, it does so in a systematic way. Although we know that students do not learn sounds in any set sequence, we understand that most students will learn blends before digraphs; short vowel sounds before long vowel sounds; and both before <i>r</i> -controlled vowels. Reading Rods is flexible; you may use the sequence provided or one designed by your basal text.”	Page 13  “Systematic and explicit phonics instruction is more effective than non-systematic or no phonics instruction.”	K–3 Teacher’s Guides, Pages 10-13  From phonemic awareness to the alphabetic principle to letter-sound relationships through word analysis, decoding, and sentence building, Reading Rods Phonics offers explicit teaching opportunities throughout. The Instructional Scope details the outcomes of phonics skills and strategies arranged in a systematic, sequential, lesson-by-lesson organization.
Page 10  “The effects of systematic early phonics instruction were significant and substantial in kindergarten and the 1 <sup>st</sup> grade, indicating that systematic phonics programs should be implemented at those age and grade levels.”	K Teacher’s Guide, Page 3  The Table of Contents lists in detail the systematic sequence of skills instruction from initial consonants lessons in Units 3–6 to short vowel lessons in Units 7–8.  Grade 1 Teacher’s Guide, Page 3  The Table of Contents lists in detail the systematic sequence of skills instruction beginning with Unit 3, Initial Consonants, and ending with Unit 8, Vowel Digraphs.	Page 15  “Systematic and explicit phonics instruction is most effective when introduced early.”	K Teacher’s Guide, Page 3  Listed in the Table of Contents are the skills that are introduced early to Kindergarten children. For each skill, the lesson is designed to introduce the concept, teach the concept, assess understanding, and extend the concept. The skills included the following: <ul style="list-style-type: none"> <li>▪ sounds and print (1 unit)</li> <li>▪ the alphabet (1 unit)</li> <li>▪ initial consonants (4 units)</li> <li>▪ short vowels (2 units)</li> </ul> In first grade, instruction includes these skills, as well as final consonants, long vowel sounds, and more.

<b>Report of the National Reading Panel</b>	
<i>Report of the National Reading Panel</i>	<i>Reading Rods Phonics Program</i>
<p>Page 10</p> <p>“Systematic phonics instruction has been used widely over a long period of time with positive results, and a variety of systematic phonics programs have proven effective with children of different ages, abilities, and socioeconomic backgrounds...These facts and findings provide converging evidence that explicit, systematic phonics instruction is a valuable and essential part of a successful classroom reading program.”</p>	<p>K–3 Teacher’s Guide, Pages 8-9</p> <p>In the introduction, Dr. Fisher outlines how this phonics program systematically moves children from phonemic awareness and beginning phonics in Kindergarten through to sentence construction in Grade 3 and how it can correlate to basal reading programs.</p>
<p>Page 10</p> <p>“Across all grade levels, systematic phonics instruction improved the ability of good readers to spell. The impact was strongest for kindergartners and decreased in later grades.”</p>	<p>K Teacher’s Guide, Pages 60, 66</p> <p>The activities in this lesson engage students in viewing, tracing, and saying the letter <i>r</i>, then assembling <i>r</i> words, spelling and writing them, and defining them.</p>
<p>Page 9</p> <p>“The ability to read and spell words was enhanced in kindergartners who received systematic beginning phonics instruction. First graders who were taught phonics systematically were better able to decode and spell, and they showed significant improvement in their ability to comprehend text.”</p>	<p>K Teacher’s Guide, Page 11, 114-117; Grade 1 Teacher’s Guide, Pages 11, 85-88</p> <p>Under the heading Word Formation and Spelling, the following objectives are stated: Uses knowledge of onsets and rimes to build words; uses knowledge of CVC spelling patterns to create words; uses knowledge of other spelling patterns to create words—CV, CV<i>Ce</i>, CVVC, and more.</p>

<b>Put Reading First</b>	
<i>Put Reading First</i>	<i>Reading Rods Phonics Program</i>
<p>Page 15</p> <p>“Phonics instruction is most effective when it begins in kindergarten or first grade. To be effective with young learners, systematic instruction must be designed appropriately and taught carefully. It should include teaching letter shapes and names, phonemic awareness, and all major letter-sound relationships. It should ensure that all children learn these skills.”</p>	<p>K–3 Teacher’s Guides, Page 3</p> <p>Listed in the Kindergarten Table of Contents are the skills that are systematically introduced early to children, including phonemic awareness, print awareness, alphabet concepts, initial consonants, and short vowels. The contents page for Grades 1–3 show that other skills taught in the program include final consonants, long vowel sounds, consonant blends and digraphs, vowel digraphs, and more.</p>
<p>Page 13</p> <p>“The programs also might provide children with opportunities to spell words and to write their own stories with the letter-sound relationships they are learning.”</p>	<p>K Teacher’s Guide, Pages 86, 96</p> <p>The activities in this lesson engage students in “air writing” saying the letter <i>j</i>, then assembling <i>j</i> words, spelling them, and defining them. At the end of the unit, <i>j</i> words reappear on the journal page. Students use <i>j</i> words to write about a personal experience. They share their spelling strategies, and the teacher demonstrates how to spell a word by chunking it.</p>

<b>Report of the National Reading Panel</b>	
<i>Report of the National Reading Panel</i>	<i>Reading Rods Phonics Program</i>
<p>Page 10</p> <p>“Programs that focus too much on the teaching of letter-sound relations and not enough on putting them to use are unlikely to be very effective...Thus, one concern is how to maintain consistency of instruction while still encouraging the unique contributions of teachers.”</p>	<p>K Teacher’s Guide, Pages 86-97</p> <p>During Unit 5, children practice letter sounds and apply them in the reading of a mini-book at the end of the unit. The lesson plan is consistent throughout the unit. It involves 4 steps: Introduce the Concept, Teach the Concept, Assess Understanding, and Extend the Concept. In the first phase of each lesson (Introduce the Concept), teachers can add additional examples or questions to use the program flexibly.</p>
<p>Page 11</p> <p>“Teachers should be able to assess the needs of the individual students and tailor instruction to meet specific needs. However, it is more common for phonics programs to present a fixed sequence of lessons scheduled from the beginning to the end of the school year. In light of this, teachers need to be flexible in their phonics instruction in order to adapt it to individual student needs.”</p>	<p>Grade 1 Teacher’s Guide, Pages 3, 18</p> <p>Reading Rods Phonics presents a fixed sequence of lessons throughout the year as seen in the Table of Contents. Each lesson contains an assessment step called Assess Understanding. During lesson-by-lesson assessment, teachers identify students who may need more instruction and reinforce the lesson during Extend the Concept.</p>

<b>Put Reading First</b>	
<i>Put Reading First</i>	<i>Reading Rods Phonics Program</i>
<p>Page 13</p> <p>“The programs also provide materials that give children substantial practice in applying knowledge of these relationships as they read and write. These materials include books or stories that contains a large number of words that children can decode by using the letter-sound relationships they have learned and are learning.</p>	<p>Grade 2 Teacher’s Guide, Pages 25, 41, 59, 79, 95, 115, 129, 147</p> <p>At the end of each unit, the program provides a mini-book for students to read independently. These mini-books contain a large number of words that children can decode using the letter-sound relationships learned in the unit lessons. A book review for each mini-book is provided for children to respond to the stories. Each book review page includes questions about the words that were studied in the lessons and appeared in the story.</p>
<p>Page 13</p> <p>“The hallmark of programs of systematic phonics instruction is the direct teaching of a set of letter-sound relationships in a clearly defined sequence. The set includes the major sound/spelling relationships of both consonants and vowels.”</p>	<p>Grade 1 Teacher’s Guide, Pages 42, 66, 78, 98, 114, 130</p> <p>Beginning with Unit 3 on page 42, Reading Rods Phonics provides twelve lessons focusing on initial consonant sounds. On page 66, Unit 4 continues with three lessons on final consonants. On page 78, Unit 5 provides eleven lessons on short vowel sounds, followed by Unit 6, beginning on page 98, offering nine lessons on long vowel sounds. On page 114, Unit 7 provides nine lessons on consonant blends and digraphs, and Unit 8, beginning on page 130, offers six lessons on vowel digraphs. Word making, spelling, and writing applications are a part of all lessons throughout these units.</p>

<b>Report of the National Reading Panel</b>	
<i>Report of the National Reading Panel</i>	<i>Reading Rods Phonics Program</i>
<p>Page 11</p> <p>“Teachers must understand that systematic phonics instruction is only one component—albeit a necessary component—of a total reading program; systematic phonics instruction should be integrated with other reading instruction in phonemic awareness, fluency, and comprehension strategies to create a complete reading program.”</p>	<p>Grade 2 Teacher’s Guide, Pages 114-115</p> <p>At the completion of a series of lessons, the unit concludes with students writing a journal page and reading from a mini-book, applying the phonics skills learned in previous lessons. Fluency and comprehension can be practiced with the mini-books, which serve as an ideal transition to other books within their reading program. The book review pages for the mini-books contain personal responses and comprehension questions, in addition to phonics questions.</p>
<p>Page 11</p> <p>“It is also critical for teachers to understand that systematic phonics instruction can be provided in an entertaining, vibrant, and creative manner.”</p>	<p>Grade 1 Teacher’s Guide, Pages 100-102</p> <p>To engage students in an entertaining application of phonics, teachers introduce the rhyming game of “Hink Pink” and encourage students to play by building rhyming definitions. In the next lesson, weird riddles are introduced that engage students in entertaining word building exercises.</p>

<b>Put Reading First</b>	
<i>Put Reading First</i>	<i>Reading Rods Phonics Program</i>
<p>Page 15</p> <p>“As instruction proceeds, children should be taught to use this knowledge to read and write words.”</p> <p>Page 15</p> <p>“Along with phonics instruction, young children should be solidifying their knowledge of the alphabet, engaging in phonemic awareness activities, and listening to stories and informational texts read aloud to them.”</p>	<p>Grade 3 Teacher’s Guide, Pages 68, 76-77</p> <p>Throughout the program from Kindergarten to Grade 3, children are engaged in building words in all lessons designated with the “Learn” icon. The words studied in these lessons are revisited in lessons designated with the “Practice” icon. Each unit ends with a reading and writing assignment that provides a cumulative review of skills learned.</p> <p>Grade 2 Teacher’s Guide, Pages 14, 26, 80</p> <p>Throughout the entire K–3 program, each unit begins with a read-aloud poem. For example, the poem on page 14 plays with the alphabet, naming the letters and the sounds of the letters; the poem on page 26 plays with alliteration and the repeated sound of the letter <i>p</i>; and the poem on page 80 plays with the repeated sound of the letter <i>f</i>.</p>
<p>Page 17</p> <p>“You can teach phonics effectively to the whole class, to small groups, or to individual students. The needs of the students in your class and the number of adults working with them determine how you deliver instruction.”</p>	<p>Grade 1 Teacher’s Guide, Pages 6-7</p> <p>This program was designed for whole-class demonstration and small group instruction. Teaching materials include pocket chart cards, overhead tiles, individual Reading Rods manipulatives, games, mini-books, and blackline masters.</p>

<b>Report of the National Reading Panel</b>	
<i>Report of the National Reading Panel</i>	<i>Reading Rods Phonics Program</i>
<p>Page 11</p> <p>“However, it is again important to note that fluent and automatic application of phonics skills to text is another critical skill that must be taught and learned to maximize oral reading and reading comprehension.”</p>	<p>Grade 1 Teacher’s Guide, Page 97</p> <p>Students use mini-books to practice applying phonics skills in a fluent and automatic manner. Teachers ask children to identify certain words and explain their reading strategies.</p>
<p>Page 11</p> <p>“Phonics skills must be integrated with the development of phonemic awareness, fluency, and text reading comprehension skills.”</p>	<p>K–3 Teacher’s Guide, Pages 10-13</p> <p>Phonics skills are sequentially taught and integrated with phonemic awareness, fluency and text reading comprehension. Students practice and transfer these skills as they read mini-books and complete journal pages at the end of every unit. The integration of skills throughout the K–3 program is apparent in the Instructional Scope:</p> <p>Emergent Literacy Skills</p> <ul style="list-style-type: none"> <li>▪ Print Awareness</li> <li>▪ Phonological and Phonemic Awareness</li> <li>▪ Alphabetic Principle</li> <li>▪ Letter-Sound Relationships</li> </ul> <p>Systematic Vocabulary Development</p> <ul style="list-style-type: none"> <li>▪ Word Formation and Spelling</li> <li>▪ Word Meaning</li> <li>▪ Word Analysis</li> </ul> <p>Written Language Conventions</p> <ul style="list-style-type: none"> <li>▪ Grammar, Usage, and Mechanics</li> <li>▪ Sentence Formation</li> <li>▪ Phonics in Context</li> </ul>

<b>Put Reading First</b>	
<i>Put Reading First</i>	<i>Reading Rods Phonics Program</i>
<p>Page 17</p> <p>“Although children need to be taught the major consonant and vowel letter-sound relationships, they also need ample reading and writing activities that allow them to practice using this knowledge.”</p> <p>Page 17</p> <p>“Usually, practice materials are in the form of short books or stories that contain words that provide children with practice in using the specific letter-sound relationships they are learning.”</p>	<p>Grade 3 Teacher’s Guide, Pages 94-95</p> <p>Throughout the entire K–3 program, children are engaged in writing letters, words, and eventually sentences on the journal page at the end of each unit. In addition, children are presented with a mini-book to read. The example on pages 94-95 of the Grade 3 Teacher’s Guide exemplifies the journal and mini-book activities at that level.</p> <p>In the complete K–3 program, there are a total of 32 mini-books which children read using the phonics skills targeted and taught in the sequential units.</p>
<p>Page 17</p> <p>“Most programs of systematic phonics instruction also include materials for use in practicing writing. For example, children might have activity sheets on which they write the letters and letter combinations they are learning, and then combine these into words, sentences, messages, and their own stories.”</p>	<p>Grade 3 Teacher’s Guide, Page 110</p> <p>Throughout the entire K–3 program, journal pages are provided at the conclusion of each unit. At Kindergarten, the entries begin with letters and build up to words. By Grade 3, as the example on page 110 of the Teacher’s Guide shows, students are writing complete sentences, using a number of different parts of speech.</p>

## Phonics Studies Included in the NRP Meta-Analysis

*Following are studies included in the National Reading Panel's meta-analysis that support the instructional design of Reading Rods Phonics.*

- Blachman, B.; Tangel, D.; Ball, E.; Black, R.; & McGraw, D. (1999). Developing phonological awareness and word recognition skills: A two-year intervention with low-income, inner city children. *Reading and Writing: An Interdisciplinary Journal*, 11, 263–273.
- Foorman, B.; Francis, D.; Fletcher, J.; Schatschneider, C.; & Mehta, P. (1998). The role of instruction in learning to read: Preventing reading failure in at-risk children. *Journal of Educational Psychology*, 90, 37–55.
- Foorman, B.; Francis, D.; Novy, D.; & Liberman, D. (1991). How letter-sound instruction mediates progress in first-grade reading and spelling. *Journal of Educational Psychology*, 83, 456–469.
- Freppon, P. (1991). Children's concepts of the nature and purpose of reading in different instructional settings. *Journal of Reading Behavior*, 23, 139–163.
- Greaney, K.; Tunmer, W.; & Chapman, J. (1997). Effects of rime-based orthographic analogy training on the word recognition skills of children with reading disability. *Journal of Educational Psychology*, 89, 645–651.
- Haskell, D.; Foorman, B.; & Swank, P. (1992). Effects of three orthographic/phonological units on first-grade reading. *Remedial and Special Education*, 13, 40–49.

- Klesius, J.; Griffith, P.; & Zielonka, P. (1991). A whole language and traditional instruction comparison: Overall effectiveness and development of the alphabetic principle. *Reading Research and Instruction*, 30, 47–61.
- Lovett, M.; Lacerenza, L.; Borden, S.; Frijters, J.; Steinbach, K.; & DePalma, M. (2000). Components of effective remediation for developmental reading disabilities: Combining phonological and strategy-based instruction to improve outcomes. *Journal of Educational Psychology*, 92(2), 263–283.
- Martinussen, R., & Kirby, J. (1998). Instruction in successive and phonological processing to improve the reading acquisition of at-risk kindergarten children. *Developmental Disabilities Bulletin*, 26, 19–39.
- Stuart, M. (1999). Getting ready for reading: Early phoneme awareness and phonics teaching improves reading and spelling in inner-city second language learners. *British Journal of Educational Psychology*, 69, 587–605.
- Tunmer, W., & Hoover, W. (1993). Phonological recoding skill and beginning reading. *Reading and Writing: An Interdisciplinary Journal*, 5, 161–179.
- Vandervelden, M., & Siegel, L. (1997). Teaching phonological processing skills in early literacy: A developmental approach. *Learning Disability Quarterly*, 20, 63–81.

**PART III – Vocabulary**  
**FINDINGS and DETERMINATIONS of the NATIONAL READING PANEL and**  
**the RECOMMENDATIONS of PUT READING FIRST**

How does the vocabulary instruction in Reading Rods Phonics align with the research cited by the National Reading Panel in its report *Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implication for Reading Instruction* and in *Put Reading First: The Research Building Blocks for Teaching Children to Read*?

Report of the National Reading Panel	Put Reading First	Reading Rods Phonics
<p>Page 13</p> <p>“The importance of vocabulary knowledge has long been recognized in the development of reading skills. As early as 1924, researchers noted that growth in reading power means continuous growth in word knowledge (Whipple, 1925). Vocabulary is critically important in oral reading instruction. There are two types of vocabulary—oral and print.”</p>	<p>Page 34</p> <p>“In general, vocabulary can be described as oral vocabulary or reading vocabulary. Oral vocabulary refers to words that we use in speaking or recognize in listening. Reading vocabulary refers to words we recognize or use in print.”</p>	<p>Grade 2 Teacher’s Guide, Page 60</p> <p>Every Reading Rods Phonics unit opens with the teacher reading aloud a short poem. Students listen for pleasure, relating the words they hear to their background knowledge and oral vocabulary. Such activities lay essential groundwork for preparing students to recognize words from their oral vocabulary when they later encounter them in print.</p>
<p>Page 13</p> <p>“A reader who encounters a strange word in print can decode the word to speech. If it is in the reader’s oral vocabulary, the reader will be able to understand it.”</p>	<p>Page 34</p> <p>“Vocabulary plays an important part in learning to read. As beginning readers, children use the words they have heard to make sense of the words they see in print.”</p>	<p>K Teacher’s Guide, Pages 18, 36, 43; Grade 1 Teacher’s Guide, Pages 88, 133</p> <p>As early as Kindergarten, students say the names of objects on picture rods to help develop oral vocabulary. In later lessons, after matching letters and sounds from these familiar words (e.g., page 36), students build words from their oral vocabulary (e.g., page 43). Throughout the program, whenever students build words with Reading Rods, they say them aloud to help determine if the words are real, if the words are spelled correctly, and if they recognize the words once they hear them.</p>
<p>Page 13</p> <p>“If the word is not in the reader’s oral vocabulary, the reader will have to determine the meaning by other means, if possible.”</p>	<p>Page 35</p> <p>“The more oral language experiences children have, the more word meanings they learn.”</p> <p>“Children learn word meanings from listening to adults read to them.”</p> <p>“The more children read on their own, the more words they encounter and the more word meanings they learn.”</p>	<p>Grade 2 Teacher’s Guide, Pages 131, 134, 136</p> <p>Listening to the poems read aloud before each unit reinforces words that are already part of the children’s oral vocabulary. They also hear new words read in a context that helps them ascribe meaning to them. Then as children work with prefixes and suffixes, they experience new ways to determine word meanings.</p>

Report of the National Reading Panel	Put Reading First	Reading Rods Phonics
<p>Page 14</p> <p>“The findings on vocabulary yielded several specific implications for teaching reading. First, vocabulary should be taught both directly and indirectly. Repetition and multiple exposures to vocabulary items are important.”</p> <p>“Finally, dependence on a single vocabulary instruction method will not result in optimal learning.”</p>	<p>Page 35</p> <p>“Students learn vocabulary directly when they are explicitly taught both individual words and word-learning strategies. Direct vocabulary instruction aids reading comprehension.”</p> <p>Page 38</p> <p>“Using Word parts. Knowing some common prefixes and suffixes (affixes), base words, and root words can help students learn the meanings of many new words. For example, if students learn just the four most common prefixes in English (un-, re-, in-, dis-), they will have important clues about the meaning of about two thirds of all English words that have prefixes.”</p> <p>Page 40</p> <p>“Using context clues. Context clues are hints about the meaning of an unknown words that are provided in the words, phrases and sentences around the word.”</p> <p>Page 41</p> <p>“Word Play. Encourage students to play with words by engaging in word play, such as puns or palindromes.”</p>	<p>Grade 2 Teacher’s Guide, Pages 29, 63, 89, 108, 109, 138</p> <p>Word identification and word learning strategies are introduced and practiced in many lessons at all four grade levels. Examples: onsets and rimes (p. 29), spelling patterns (p. 63), chunks (p. 89), root words (p. 138), synonyms (p. 108), antonyms (p. 109).</p> <p>Grade 3 Teacher’s Guide, Pages 132-134</p> <p>Using the Prefixes, Suffixes, and Root Words kit, students manipulate and explore word parts. In three consecutive lessons, the four most common prefixes in English (un-, re-, in-, dis-) are taught and applied to a number of words.</p> <p>Grade 3 Teacher’s Guide, Page 135</p> <p>Students manipulate words by changing word beginnings and endings, including prefixes and suffixes (affixes), as well as substituting different root words, in order to construct phrases and sentences that provide a context for the meaning of certain words. In addition, students have endless opportunities to use context and to investigate words meanings as they create their own sentences using the rods in the Sentence Construction kit</p> <p>Grade 1 Teacher’s Guide, Page 101</p> <p>In addition to including game boards with dozens of word games that can be played, word play activities such as “Words in a Cup” are suggested at various places throughout the program.</p>

Report of the National Reading Panel	Put Reading First	Reading Rods Phonics
<p>Page 14</p> <p>“Learning words before reading a text is also helpful.”</p>	<p>Page 36</p> <p>“Teaching specific words before reading helps both vocabulary learning and reading comprehension.”</p> <p>“Before students read a text, it is helpful to teach them specific words they will see in the text. Teaching important vocabulary before reading can help students both learn new words and comprehend the text.”</p> <p>Page 36</p> <p>“Extended instruction that promotes active engagement with vocabulary improves word learning.”</p> <p>“Children learn words best when they are provided with instruction over an extended period of time and when that instruction has them work actively with the words.”</p>	<p>Grade 3 Teacher’s Guide, Page 145</p> <p>In this lesson, the teacher is asked to prepare students to read their mini-books. In doing so, the teacher discusses unfamiliar words with the students before they read.</p> <p>Grade 3 Teacher’s Guide, Pages 8-13</p> <p>Throughout the program, word learning occurs as students build words with Reading Rods, as they write letters and words on pages from the student activity books and blackline masters, as they play with words in word games, as they write on journal pages, and as they read mini-books. Dr. Fisher describes the progression from phonemic awareness to phonics skills, word building, prefixes, suffixes, root words, and sentence construction in the Introduction on pages 8 and 9. Following the Introduction is a comprehensive Instructional Scope on pages 10-13.</p>

## Vocabulary Studies Included in the NRP Report

“An exhaustive inquiry into recent research in vocabulary instruction techniques failed to elicit a numerically large database of studies that satisfied the NRP criteria for inclusion.” (National Reading Panel Report of the Sub-groups, 4-17). However, the panel did find and discuss important and interesting trends in the body of available studies. Following are some of the studies discussed in the National Reading Panel Report that support the instructional design of Reading Rods Phonics.

Blachowicz, C., & Fisher, P. (2002). *Teaching vocabulary in all classrooms*. Columbus, OH: Merrill/Prentice Hall.

Blachowicz, C. & Fisher, P. (in press). Vocabulary instruction. In M. Kamil, P. Mosenthal, P.D. Pearson, & R. Barr (Eds.). *Handbook of reading research* (Vol. 3). Mahwah, NJ: Lawrence Erlbaum Associates.

Drevno, G.E.; Kimball, J.W.; Possi, M.K.; Heward, W.L.; Garner, R.; & Barbetta, P. M. (1994). Effects of active student response during error correction on the acquisition, maintenance, and generalization of science vocabulary by elementary students: A systematic replication. *Journal of Applied Behavior Analysis*, 27(1), 179–180.

Durkin, D. (1993). *Teaching them to read*. (6<sup>th</sup> ed.) Boston, MA: Allyn and Bacon.

Eldridge, J.L. (1990). Increasing the performance of poor readers in the third grade with a group-assisted strategy. *Journal of Educational Research*, 84(2), 69–77.

McKeown, M.G.; Beck, I. L.; Omanson, R. C.; & Perfetti, C.A., (1983). The effects of long-term vocabulary instruction on reading comprehension: A replication. *Journal of Reading Behavior*, 15(1), 3–18.

McKeown, M.G.; Beck, I. L.; Omanson, R. C.; & Pople, M. T. (1985). Some effects of the nature and frequency of vocabulary instruction on the knowledge and use of words. *Reading Research Quarterly*, 20(5), 522–535.

Ryder, R.J., & Graves, M. F. (1994). Vocabulary instruction presented prior to reading in two basal readers. *Elementary School Journal*, 95(2), 139–153,