

# Florida Center for Reading Research

## Orchard

### What is Orchard?

*Orchard* is a technology-based supplemental/intervention program whose goal is to improve student performance through practice and reinforcement of skills in language arts, math, and science in grades K-9 (only the components of this software that specifically support reading skills will be reviewed here). Using the *Orchard* Manager, teachers may individualize assessments and assignments for individual students and/or classes and assign a specific time frame of use; the frequency and duration of lessons will differ based on student need and teacher direction. Students may access the software via a single-computer, in classroom computer banks, or in a computer lab. *Orchard* software may be used by small groups as a differentiated center activity, with individual students, or teachers may opt to present a lesson to small group or whole class using a large screen projection device.



Instruction and practice activities are organized in Skill Trees at each grade level in these reading related titles: Phonemic Awareness, Phonics Sequences, Reading Links, Guided Comprehension, Vocabulary Builder, Reading for Comprehension, Reading for Comprehension & Critical Thinking, Reading and Writing Strategies, Reading, Research and Language Skills, Prewriting, Punctuation, Writing and Editing, Letters, Sounds, and Words, and Spelling Buzz. Within most titles, results of computer generated pretests are used to assign instruction, practice, and application based on areas of difficulty, or teachers may modify assignments and program parameters by individual student or class. This aspect, which provides multiple options to enable or disable pretests, number of activities, practice time, animation, voice, story choice, mastery level, and more, is a valuable feature of *Orchard*. For example, in the phonemic awareness Skill Tree *Orchard* presents consonants in alphabetic order, though teachers may easily adjust the program to align with their own sequence of letter introduction. DVD's are available which align vocabulary practice to the following core reading programs: Houghton Mifflin, 2001, MacMillan McGraw Hill, Scott Foresman Reading, SRA Open Court Basal, Harcourt Collections, 2001, SRA Reading Mastery Plus, SRA Corrective Reading, Harcourt Trophies, 2001, Rigby Literacy, 2001, SRA Corrective Reading Decoding, 1999, and SRA Open Court, 2000, and SRA Open Court.

Lesson formats vary considerably depending on the specific Skill Tree and the level of instruction, though many are constructed like the following few examples. A phonemic awareness lesson begins with a pretest which presents items until the student has incorrectly responded to two skills (sounds). At that time errorless practice is provided (the student's only choice is a correct one). Following practice, students are presented with timed activities which continue to mastery; the default requires 100% mastery to advance to a new skill. Following completion of each skill, a reward game containing skills related to the lesson is offered.

A phonics lesson format presents upper and lowercase letters and directs students to match them on the keyboard. Students are given two chances to answer correctly before the answer is provided. In the activities which follow students match a picture to the letter representing the initial sound of the word the picture represents,

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then they match letter to picture, and finally slide letters together to form the word. Reward games follow practice and require students to use the keyboard to complete words represented by pictures, identify pictures represented by words, and form words represented by pictures.

Guided Comprehension begins with a comprehension pretest to determine student placement within Skill Trees and then uses narrative, informational, or persuasive texts to present a pretest, followed by instruction, practice, and application. After a brief introduction to each text, students are prompted to make a prediction, vocabulary words are introduced along with their pronunciations and meanings, and the story is presented onscreen for silent reading (or students may choose audio to hear the story and/or questions read aloud). Multiple choice questions follow with explicit explanations of each question type (which may include fact vs. opinion, identifying main idea, cause and effect, and others) including embedded hints for answering. If students give an incorrect answer, the screen immediately returns to the appropriate text section and prompts students to reread the text for the correct answer. After two incorrect attempts, the correct answer is supplied. Target questions (such as inference questions) automatically send students back to the text to reread and select words or phrases in the text that contain the correct answer. After answering all questions, students are prompted to check their original predictions. Several game activities are available after practice completion; each provides additional practice of skills previously learned.

*Orchard* Language Arts student materials are provided in software curriculum bundles for grades K-3, 4-6, and 7-9. Teacher materials for each bundle include well-organized Teacher's Guides detailing management and content, as well as an easy to follow training guide which explicitly directs teachers in how to navigate programs, modify program parameters, differentiate student assignments using the Correlation Finder (alignment with specific state standards) and the Skill Finder (alignment to specific skills), and match assignments to assessment results. Content directions include an introduction and overview of each Skill Tree, including objectives, skills, and screenshots. Because of the large number of available Skill Trees, it is not feasible to adequately describe each one in this report. However, for every Skill Tree each Teacher's Guide provides detailed scope and sequence information, instructions, lists of all activities and games, directions for modifying program parameters, and suggestions for integrating the technology into instruction. Word lists and story samples for teacher preview are also included.

Assessments include *Orchard* for Your State tests, (Florida: Language Arts Tests 1-8) designed to align with current state standards, and pretests for selected skill trees to guide student placement. Progress monitoring is available within three types of reports: Student Skill Tree Progress Reports, Class Skill Tree Summary Reports, and Student Portfolio Reports.

### How is the Orchard aligned with Current Research?

All five components, phonological awareness, phonics, fluency, vocabulary, and comprehension, identified by current research to be critically important for reading instruction, are evident within *Orchard's* Skill Trees. While sequences provided by *Orchard's* computer assisted instruction may be problematic for struggling readers, the flexibility afforded to teachers to choose and adapt both the order of lessons and the parameters of specific instruction within lessons provides a solution to this weakness. Due to the vast number and variety of lessons, the instructional dimensions within and across reading components is not constant and within individual lessons some

instructional routines are more robust than others. Examples within each reading component are described below.

Phonemic awareness is contained within Skill Trees called Phonemic Awareness, Levels A-D. Consonants, long and short vowels, consonant digraphs, word families, vowel digraphs and diphthongs, consonant blends, schwa and r-controlled sounds are presented implicitly and errorless practice is provided. Of concern is the computer produced sequence of introduction as well as the immediate application of sound to letters. Typical research-based, coordinated instructional sequences and routines such as beginning with larger units and progressing to smaller units, beginning with rhyming and progressing to phoneme isolation, blending, segmenting and manipulation are not typical of Orchard's phonemic awareness lessons. However, because teacher-specific adjustments are easily made, this software may be manipulated to provide appropriate supplemental practice opportunities that support classroom instruction in phonemic awareness.

Phonics Sequence A begins with practices for matching named and displayed letters to the keyboard, then moves to matching initial sounds to displayed words, pictures representing the words, and spoken words. Practices move from initial letter sounds and blends to final sounds and blends. Sequence B follows with CVC words with short vowels, and Sequence C includes ending blends, silent e, double vowels, vowel + r and le. Phonics Sequence D contains lessons including initial consonant blends with short vowels and digraphs, silent e, silent letters, soft consonant sounds, multiple syllables, and common word endings. The Teacher's Guide describes each phonics lesson in detail including: reading skill, activity and sight word lists, sentences, story with connected text, and literal comprehension questions. Teachers may assign specific lessons, change the order of lessons, eliminate or reassign lessons, and enable/disable activities within lessons. Concerns similar to those expressed in the preceding paragraph are again mitigated by a teacher's ability to pick and choose among lessons and by the nature of this program which serves largely as supplemental practice and support for classroom instruction.

Fluency practice is addressed in Skill Trees called Reading Links 1-5 through the research based strategies of adult modeling of prosodic reading, repeated reading, and timed reading. Modules are designed specifically for K-2, but may provide additional support for English Language Learners and older struggling readers. In these lessons, vocabulary is introduced before a narrator models prosodic reading of a story. Next, follows a student read-along with the narrator reading at a slower pace as words or phrases are highlighted. Following this practice, students read the story again, page by page, recording their voices, then listen to their recordings, and reread and rerecord to correct errors and improve rate (measured by a built in timer). Literal comprehension questions, spelling practice, and critical thinking questions complete the activities.

The vocabulary component is evident throughout many Skill Trees that preview story vocabulary and within many practices constructed around high frequency words and word families; explicit vocabulary practice is found in Vocabulary Builder Skill Trees K-6. Two features are unique to these modules: the DVDs which are available to support specific core reading program vocabulary and an additional feature which allows the teacher to build personalized vocabulary lists and sentences, along with recordings within which his/her created lessons can be voiced. Although vocabulary instruction embedded within lessons introduces words, provides definitions, and extends practice activities, it does not include a more robust instructional routine of student-friendly definitions, clarification with examples, repeated exposure to words in

rich and multiple contexts, and making connections from word meaning to prior knowledge.

Comprehension practice is well-supported in several Skill Trees including: Guided Comprehension 1-6, Reading for Comprehension Beginning and Advanced, Reading for Main Idea, Reading Comprehension and Critical Thinking 4-9, and within several reading and writing modules. A strength of *Orchard* is the explicit and scaffolded instruction embedded in Guided Comprehension. Text reading is enhanced with before-, during-, and after-reading strategies, and comprehension questions include a range from literal, to inferential, to evaluative. As each question is presented, it is identified (i.e., this is a fact/opinion question). Corrective feedback is delivered as students are redirected to the text to find the answer. Grade-leveled texts include equal exposure to narrative, persuasive/argumentative, and informational text. Literal, inferential, and critical comprehension skills are included in individual lessons which highlight understanding of cause/effect, compare/contrast, details/facts, fact/opinion, following directions, identifying speaker, main idea, sequencing, characters, setting, drawing conclusions, interpreting characters, making inferences, mood and/or tone, predicting outcomes, recognizing emotional reactions, vocabulary, author's purpose or point of view, drawing conclusions, judging validity, reasoning, retelling/paraphrasing, and understanding persuasion. Writing instruction, including grammar and punctuation lessons, supports reading comprehension through lessons in sentence structure, word use, and text organization. As with many *Orchard* Skill Trees, teachers are able to manipulate various features to extend and support classroom instruction. Questions, answers, and stories may be voiced or unvoiced per teacher direction or student choice, activities may be enabled/disabled, student responses may be recorded or typed, and text type may be selected/deselected.

*Orchard* offers professional development in an assortment of formats. *Orchard* Manager training guides, *Orchard* Interactive Tutorial CD's, toll-free technical support, and access to the *Orchard* Tree of Knowledge Professional Development website ([www.OrchardTreeofKnowledge.com](http://www.OrchardTreeofKnowledge.com)) are all provided at no cost with purchase of the program. Customized professional development sessions for up to 25 participants are conducted by the company at an additional cost. These sessions include materials along with implementation and integration ideas delivered by a professional with classroom experience. Also available at an additional cost are advanced professional development courses offering topics such as Improving Education with Data Driven Decision-Making, Meeting Adequate Yearly Progress Goals with a Standards-Based Curriculum, and Successfully Integrating Technology into the Classroom.

## Research Support for Orchard

*Orchard* software was designed to utilize the benefits of computerized instruction. On their website and within an extensive number of anecdotes and pilot studies, *Orchard* has published reports on multiple schools that implemented the program and showed positive gains as a result. The design of these studies (i.e., lack of control groups, lack of random assignment, lack of information about the assessment tools) does not allow us to determine that the gains reported are the direct result of children's work with the software.

Although instructional support provided through *Orchard's* multiple practice opportunities is consistent with current knowledge of effective reading research, no formal research studies regarding its efficacy have been conducted to date. Additional research with comparable controlled experimental designs that examine the *Orchard* system may further determine the efficacy of the program.

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## Strengths & Weaknesses

### Strengths of *Orchard*:

- To aid in differentiating instruction, program features allow teachers to select the number of texts a student must complete in each Skill Tree, to select what percent of questions students must answer correctly for mastery, and to select additional activities for extended practice.
- Teachers may deactivate animation in consideration for older struggling students who may be using lower-level programs.
- Sounds in phonemic awareness and phonics lessons are pronounced distinctly, correctly, and without distortion.
- Comprehension instruction is well-supported with explicit, scaffolded instruction and extensive practice opportunities.
- DVD's to match 11 core reading programs are available to align vocabulary practice to classroom instruction.
- A voice option for hearing stories, questions, and answers provides support for English Language Learners and struggling older readers.

### Weaknesses of *Orchard*:

- Without teacher modification of lessons and features within lessons, instruction is not explicit and systematic.
- The most current Basal Vocabulary DVD is dated 2002.

## Which Florida districts have schools that implement Orchard?

Alachua	352-955-7880	Lee	239-337-8301
Baker	904-259-0401	Leon	850-487-7147
Bay	850-872-7700	Levy	352-486-5231
Bradford	904-966-6018	Manatee	941-708-8770
Brevard	321-631-1911	Marion	352-671-7702
Broward	754-321-2600	Martin	772-219-1200
Calhoun	850-674-5927	Nassau	904-491-9901
Charlotte	941-255-0808	Okaloosa	850-833-3109
Citrus	352-726-1931	Okeechobee	863-462-5000
Clay	904-284-6510	Orange	407-317-3202
Collier	239-377-0212	Osceola	407-870-4008
Columbia	386-755-8003	Palm Beach	561-434-8200
Dade	305-995-1430	Pasco	813-794-2651
Dixie	352-498-6131	Pinellas	727-588-6011
Duval	904-390-2115	Polk	863-534-0521
Escambia	850-469-6130	Putnam	386-329-0602
Flagler	386-437-7526	Saint Johns	904-819-7502
Glades	863-946-2083	Saint Lucie	772-429-3925
Hamilton	386-792-1228	Sarasota	941-927-9000
Hernando	352-797-7001	Seminole	407-320-0006
Highlands	863-471-5564	Sumter	352-793-2315
Hillsborough	813-272-4050	Volusia	386-734-7190
Jackson	850-482-1200	Walton	850-892-1100
Jefferson	850-342-0100	Washington	850-638-6222
Lake	352-253-6510		

### For More Information

<http://www.orchardsoftware.com/>

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Important Note: FCRR Reports are prepared in response to requests from Florida school districts for review of specific reading programs. The reports are intended to be a source of information about programs that will help teachers, principals, and district personnel in their choice of materials that can be used by skilled teachers to provide effective instruction. Whether or not a program has been reviewed does **not** constitute endorsement or lack of endorsement by the FCRR.

For more information about FCRR go to: [www.fcrr.org](http://www.fcrr.org)