

# Florida Kindergarten Readiness Screener

Administration Manual 2014–2015 School Year





This document was prepared by Pearson in cooperation with the Florida Department of Education.

Questions relating to the background and purpose of the FLKRS, its relationship to the instructional program, the FLKRS instruments, directions, manuals, and interactions with the contractor (Pearson) should be directed to:

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Printed in the United States of America

FL00007991

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### **Legislative Authority and Purpose**

In 2014–2015, the *Florida Kindergarten Readiness Screener* (FLKRS) will be administered for the ninth year to assess the readiness of each child for kindergarten. Section 1002.69(1), Florida Statutes (F.S.), directed the Florida Department of Education to establish a kindergarten readiness screening based upon the performance standards adopted by the Department of Education under Section 1002.67(1), F.S. The Florida Early Learning and Developmental Standards for Four-Year-Olds (2011) describe what children should know and be able to do at the end of the VPK year in the areas of Physical Development, Approaches to Learning, Social and Emotional Development, Language Communication and Emergent Literacy, and Cognitive Development and General Knowledge.

Section 1002.69(1), F.S., also specifies that the Department of Education shall require each public school to administer a kindergarten readiness screening to all kindergarten students in the school district within the first 30 school days of each school year. Section 1002.69(1), F.S., also allows non-public schools to administer the FLKRS to students who were enrolled in VPK during the preceding year.

The FLKRS is designed to assess each child's readiness for kindergarten. The FLKRS includes a subset of the Work Sampling System® for FLKRS (WSS) and the kindergarten screening tasks of the *Florida Assessments for Instruction in Reading aligned to Florida Standards* (FAIR-FS).

Data from both of the FLKRS measures, WSS and FAIR-FS for kindergarten, should be used by the classroom teacher to inform instruction and should be shared with parents. These data will also be used to annually calculate a kindergarten readiness rate for private and public school providers of the VPK Education Program.

### Reminders for 2014–2015

All students enrolled in a public school where the FAIR-FS is broadly used as part of progress monitoring should be administered all sections of the FAIR-FS for kindergarten. This includes the Screening portion, composed of Alphabetics (Phonological Awareness and Letter Sounds), Oral Language (Vocabulary Pairs and Following Directions), and Comprehension (Listening Comprehension and Sentence Comprehension), and the Diagnostic Assessments which include Print Awareness (optional), Letter Name Knowledge, Letter Sound Knowledge, Phonological Deletion: Word Parts/Initial Sound, Letter Sound Connection, and Word Building: Consonants and Vowels.

- Students enrolled in a public school where the FAIR-FS is not broadly used as
  part of progress monitoring will only be administered the Screening portion of
  the kindergarten assessment. This will include the Alphabetics (Phonological
  Awareness and Letter Sounds), Oral Language (Vocabulary Pairs and Following
  Directions), and Comprehension (Listening Comprehension and Sentence
  Comprehension) tasks.
- Students enrolled in a non-public school will only be administered the Screening
  portion of the kindergarten assessment. This will include the Alphabetics
  (Phonological Awareness and Letter Sounds), Oral Language (Vocabulary Pairs
  and Following Directions), and Comprehension (Listening Comprehension and
  Sentence Comprehension) tasks.

The 2014–2015 administration of both measures of the FLKRS will be conducted online\* utilizing the Progress Monitoring and Reporting Network (PMRN). This system has been used in the past to record *Florida Assessments for Instruction in Reading* (FAIR) data and the PMRN has been modified to accept completed kindergarten checklists for the WSS component.

Non-public schools have been given the express consent in Florida Statutes to administer both components of the FLKRS to children attending their kindergarten. They will be granted access to the PMRN to access materials and to report FLKRS results.

Districts and schools will be able to access FLKRS results through the PMRN once the state has verified all data. The reports available through the PMRN will provide the same type of information that has traditionally been available through FLKRS reports.

### **Historical Background**

Prior to 2005–2006, the *School Readiness Uniform Screening System* (SRUSS) was administered to gather information about the readiness of all public school children as they entered kindergarten. Section 411.01(10), F.S., titled "School Readiness Uniform Screening," required that the Florida Department of Education implement the SRUSS beginning with the 2002–2003 school year.

Public school educators were required to administer the SRUSS, which consisted of the *Early Screening Inventory–Kindergarten* (ESI–K) and either the *Work Sampling System* (WSS) or the *Ready-for-School Behavioral Screener* (RFS), to children entering kindergarten in the fall of the 2002–2003 school year. The ESI–K is a developmental screening instrument that takes approximately 20 minutes to administer and gives a quick overview of a child's development in three areas: visual-motor/adaptive, language and cognition, and gross motor skills. In 2004–2005, the WSS and RFS behavioral screening instruments were replaced by the DIBELS<sup>TM</sup> Letter Naming Fluency and Initial Sound Fluency measures.

<sup>\*</sup>WSS observations are recorded manually and completed developmental checklists must be entered into the PMRN.

Prior to 2002–2003, school districts completed a *School Readiness Checklist* for measuring school readiness for each child entering kindergarten. Based on the results of the checklist, a determination was made regarding whether the child was "ready" for kindergarten.

### **Screening Instruments**

Florida Kindergarten Readiness Screener (FLKRS) includes two screening instruments: a developmental screening tool, the Work Sampling System for FLKRS, and the screening tasks of the FAIR-FS for kindergarten. Inclusion of the FAIR-FS as a part of FLKRS has been accomplished through close collaboration with the Florida Center for Reading Research (FCRR) at Florida State University and the *Just Read, Florida!* Office.

### **FLKRS Implementation and Early Childhood Practice**

When implementing a screening system for young children, caution must be taken to ensure that screening procedures are consistent with sound early childhood practice. In a 2003 joint position statement titled "Early Childhood Curriculum, Assessment, and Program Evaluation" (http://www.naeyc.org/positionstatements/cape), the National Association for the Education of Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Departments of Education state the following:

"To assess young children's strengths, progress, and needs, use assessment methods that are developmentally appropriate, culturally and linguistically responsive, tied to children's daily activities, supported by professional development, inclusive of families, and connected to specific, beneficial purposes."

### **Description of Screening Instruments**

### The Work Sampling System

The Work Sampling System is a developmental authentic performance assessment designed to help teachers optimize the use of daily classroom experiences and activities to document and evaluate children's skills, knowledge, and behavior. It provides the framework that enables teachers to understand what their students know and can do. WSS domains and indicators were created based on the most up-to-date research, early learning, state standards, and contributions from content experts. A sub-set of WSS performance indicators is provided for FLKRS in five domains; Personal and Social Development; Language and Literacy; Mathematical Thinking; Scientific Thinking; and Physical Development, Health, and Safety. These performance indicators are closely

aligned with the Florida Early Learning and Development Standards for Four-Year-Olds, and they are typically addressed and observable within the first 30 days of the kindergarten year.

The five domains included in WSS for FLKRS are recognized as the core set of common indicators for school readiness outlined in the **Findings from the National School Readiness Indicators Initiative** – **A 17 State Partnership** prepared by *Rhode Island Kids Count*.

Each WSS domain is divided into subsections, or **functional components**. For instance, the Language and Literacy Domain includes the functional components Listening, Speaking, Reading, and Writing.

Each functional component includes a set of **performance indicators**. Performance indicators describe the skills, behaviors, and accomplishments representing end-of-year expectations for Pre-Kindergarten, four-year-old children. The performance indicators are the standards for the skills, behaviors, and accomplishments for which teachers will complete their ratings, and they are based upon the most current research in early learning and national standards. FLKRS performance indicators align closely with the Florida Early Learning and Developmental Standards for Four-Year-Olds. Each performance indicator is presented in one sentence designed to help teachers document each student's performance. The **developmental guidelines** explain the rationale for each performance indicator, briefly outline expectations, and include examples of several ways children might demonstrate the knowledge, skill, or behavior. The **developmental guidelines** are based upon current research and national standards, and they provide the criteria for rating each performance indicator. Teachers rate a child's performance on each indicator as "Not Yet," "In Process," or "Proficient."

The description of these three performance rating categories is included in the developmental checklist.

**Not Yet:** indicates that the child cannot perform this indicator, i.e., that this performance indicator represents a skill, an area of knowledge, or a specific set of behaviors or accomplishments that the child has not acquired.

**In Process:** indicates that the skills, knowledge, behaviors, or accomplishments represented by this indicator are intermittent or emergent, and are not demonstrated reliably or consistently.

**Proficient:** indicates the child's skill, knowledge, or behavior matches the end-of-year expectations described in the rationales of the WSS developmental guidelines.

# Florida Assessments for Instruction in Reading aligned to Florida Standards (FAIR-FS)

In collaboration with the Department of Education, the Florida Center for Reading Research (FCRR) has developed the Florida Assessments for Instruction in Reading aligned to Florida Standards (FAIR-FS). These assessments are designed to measure each child's progress, diagnose learning needs, set instructional goals, and monitor instructional progress.

Development of the FAIR-FS assessment for kindergarten through grade 2 is founded on decades of reading research reviewed in consensus documents.<sup>1</sup> Based on the data analyzed from the FAIR 2009, significant enhancements to the system were developed and studied as part of two research grants from the U.S. Department of Education's Institute of Education Sciences (IES) to Florida State University.

A new assessment was created for screening and diagnosis according to the discoveries made during these two projects. FCRR reviewed the most recent research on the component skills of reading and used advanced statistical procedures to create a highly reliable and valid measure of each important component reading skill. This new assessment that was developed independently by the FCRR is being licensed to the Florida Department of Education as the computer-adaptive components of the FAIR-FS.

In the K-2 system, studies indicated that measures of phonological awareness (blending and deletion), encoding (spelling), decoding (word reading), and oral language (vocabulary pairs, sentence comprehension, and following directions) were stronger predictors of performance on outcome measures, (i.e., SAT-10) than the FAIR 2009 tasks. Therefore, the FAIR-FS K-2 includes a broader measure of vocabulary than the FAIR 2009 and two additional oral language tasks (Following Directions and Sentence Comprehension). For descriptive data, the FAIR-FS K-2 system has more listening comprehension passages and a wider range of reading comprehension passages to span a wider range of text complexity. Although the FAIR-FS will take more time to administer due to the new tasks, the large amount of reliable, valid, and precise information that is provided in a relatively short period of time outstrips the utility of any other screening assessment. In addition, the variety of tasks and items on the K-2 FAIR-FS map onto the Language Arts Florida Standards (LAFS).

The FAIR-FS is used as part of the kindergarten screening. For FLKRS purposes, only the screening tasks of the FAIR-FS will be utilized for Florida students.

RAND Reading Study Group (2002). Reading for understanding. Santa Monica, CA: RAND.

<sup>1</sup> National Institute of Child Health and Human Development (2000). *National Reading Panel—Teaching children to read: Reports of the subgroups* (NIH Pub. No. 00-4754). Washington, D.C: U.S. Department of Health and Human Services.

National Research Council (1998). *Preventing Reading Difficulties in Young Children*. Committee on the Prevention of Reading Difficulties in Young Children, Commission on Behavioral and Social Science and Education, C. E. Snow, M. S. Burns, and P. Griffin, eds. Washington, D.C: National Academy Press.

Rayner, K., Foorman, B., Perfetti, C. A., Pesetsky, D., & Seidenberg, M. S. (2001). How psychological science informs the teaching of reading. *Psychological Science in the Public Interest*, 2, 31–74.

### **FAIR-FS Screening Tasks**

The FAIR-FS screening tasks that are administered in kindergarten during the first 30 days of school consist of Alphabetics, Oral Language, and Comprehension tasks and they are administered in kindergarten during Assessment Period 1 (AP1). For the purposes of FLKRS, all public and non-public school kindergarten children are administered these tasks.

### **Alphabetics**

In kindergarten, pre-alphabetic skills are measured by the Phonological Awareness and Letter Sounds tasks.

**Phonological Awareness**—This task is a computer-adaptive task and requires students to listen to a word that has been broken into parts and then blend the parts together to reproduce the full word.

**Letter Sounds**—This task is computer-adaptive; on the screen (computer monitor), the student is presented with a letter (both uppercase and lowercase). Students will be asked to provide the consonant sounds, short vowel sounds, and sounds of common consonant diagraphs.

These two early indicators of students' understanding of the alphabetic principle (Letter Sounds and Phonological Awareness) are highly predictive of later abilities to decode text and directly implicate areas for further explicit instruction (Foorman et al., 1998).

### **Oral Language**

**Vocabulary Pairs**—This task requires students to match words that are semantically related.

- Three words will appear on the screen and are pronounced by the computer.
- The student will click on the two words that go together best (e.g., *dark*, *night*, *swim*).

**Following Direction**—This is a computer-adaptive task that requires students to listen and attend as they hear single and multi-step directions.

- An array of objects will appear on the screen and a set of audio instructions will play.
- Students respond to the directions by clicking on or moving the specified objects on the computer screen (e.g., put the square in front of the chair and then put the circle behind the chair).

The alphabetics and oral language tasks provide information on the reading skills that are most important for predicting the development of expected grade-level outcomes for students at each grade level (i.e., word reading in Kindergarten and comprehension in grades 1 and 2). The scores on the two measures above are used to determine the student's Probability of Literacy Success (PLS). The PLS represents the likelihood that the student will receive a passing score on the end-of-year outcome measure (i.e., SESAT). The PLS is based on an aggregate of Alphabetics and Oral Language scores. This score is

expressed as a percentage and is associated with a Green, Yellow, or Red Success Zone. A color copy of the Probability of Literacy Success chart is provided online at http://www.justreadflorida.com/pmrnfair-fs/.

### Comprehension

**Listening Comprehension** —For this task, the teacher reads one passage from the computer screen. After the teacher finishes reading the passage, the teacher asks five questions—three explicit and two inferential. The score indicates the number of questions answered correctly out of five questions.

Sentence Comprehension—This computer-adaptive task consists of having the student select which of four pictures on a computer screen (monitor) depicts the sentence read aloud (e.g., click on: "The dog is under the table"). This measure assesses a student's syntactic abilities and ability to comprehend at the sentence level. This task will provide more information about students who are non-readers.

### **Communication with Parents**

### Introduction to FLKRS

Prior to the administration of the screening instruments, it is **strongly recommended** that parents of kindergarten students be provided with information about the FLKRS. School districts will be provided with a parent letter for distribution to families. This letter, written by the Department of Education on Department letterhead, is available to District Coordinators of Assessment at http://www.justreadflorida.com/pmrnfair-fs/ and may be downloaded in English, Spanish, and Haitian Creole.

It is important for teachers to help parents understand that WSS® for FLKRS is not an ongoing assessment tool. Parents should be informed that, based on the results of the screening, additional monitoring of their child's progress and specific classroom interventions may occur. The information from the FAIR-FS should also be shared with the parents. A parent letter regarding the FAIR-FS results will be automatically generated. The letter will include assessment results and suggestions for parents on how they can help their child at home with reading

### Test Administration Procedures—WSS

### Administration Schedule

WSS must be administered within the first 30 school days and resultant data entered into the PMRN. Each school calendar will be incorporated into the PMRN depending on the individual school's start date and allowing for any non-instructional days.

### Students to be Screened

In general, all students entering kindergarten in a **public school** for the first time must be screened within the first 30 school days. This includes students who attend kindergarten in **charter schools**. (Charter schools are public schools.)

Kindergarten students attending **non-public schools** who were enrolled in a VPK Education Program in the previous year should be screened within the first 30 days of school.

Every student should be given the opportunity to participate in the FLKRS program, regardless of **Potentially Limiting Physical Conditions**. No student should be denied participation on the basis of a disability.

### **Non-Participation Descriptions**

The language used for the indicators in WSS developmental guidelines is designed to be inclusive so that a child's development can be noted even when a handicapping condition is present (e.g., the word "communicates" is used instead of "verbalizes" and "notices" is used instead of "sees"). Additionally, care was taken to add examples (when appropriate) of how children with special needs demonstrate proficiency of a performance indicator.

Sometimes particular indicators, components, or domains will assume greater importance for children with disabilities. For example, for children with physical impairments, learning how to ask for assistance and how to decline assistance appropriately are central to the development of independence. Similarly, the Personal and Social Development assumes increased emphasis for children with behavioral or emotional disabilities.

Some performance indicators may not be appropriate for individual children and may be omitted or rated "No opportunity to observe." For example, most of the performance indicators in the Physical Development, Health, and Safety domain may not be appropriate for children with moderate to severe cerebral palsy. However, it is expected that classroom accommodations (e.g., interpreters for students who are deaf or hard of hearing) are used when necessary.

**Students who have been retained in kindergarten** are not included in the administration of the WSS. However, the screen on the PMRN must be completed and the "Retained" category marked in the Non-Participation field under WSS.

**Students who were screened in another school** do not need to be rescreened.

**Students with excessive absences** will not be provided a make-up administration of the WSS. In such cases, the demographic screen on the PMRN should have the "Excessive Absences" category marked in the Non-Participation field.

# Test Administration Procedures—Florida Assessments for Instruction in Reading – FS

### Administration Schedule

For the purposes of FLKRS, the FAIR-FS must be administered within the first 30 school days and resultant data entered into the PMRN.

### Students to be Screened

In general, all students entering kindergarten in a **public school** for the first time must be screened using the FAIR-FS within the first 30 school days. This includes students who attend kindergarten in **charter schools**. (Charter schools are considered public schools.)

Kindergarten students attending **non-public schools** who were enrolled in a VPK education program in the previous year should also be screened within the first 30 days of school.

### **Non-Participation Descriptions**

For **students who enter school after the 30th day**, FAIR-FS results entered into the PMRN will not be reported in the FLKRS results.

For some **English Language Learners**, the FAIR-FS may not be an appropriate instrument. However, unless they arrived in the United States in the last 30 days and have sufficient difficulty speaking, reading, writing, or understanding the English language, they should be screened. Additionally, all children who attended the Voluntary Prekindergarten program should be screened.

For some **students with disabilities**, the FAIR-FS may not be an appropriate instrument. For example, it is unlikely that this instrument would be appropriate for students with significant sensory, cognitive, or language deficits. Examiners should ask themselves the question "Is it reasonable to administer these measures to this student?" when making a determination regarding inclusion of a student with a disability in the screening.

The purpose of the FAIR-FS is to evaluate each child's progress toward the end-of-year benchmarks, identify learning needs, set instructional goals, and monitor instructional progress. For the purposes of FLKRS, scores on the FAIR-FS are **not reported** for **students who have been retained in kindergarten**. Retained students should be indicated as such on the PMRN demographic screen.

Students who were screened in another school do not need to be rescreened.

### **Administration Accommodations**

When the assessments are administered in ways different from both a standard administration and the approved accommodations, the administration would be considered a non-standardized administration and the resulting scores cannot be interpreted with the appropriate interpretive and reporting procedures.

Accommodations are provided to students with disabilities and/or ELLs to ensure that valid results are obtained and an accurate estimate of their skill level is determined. Appropriate test accommodations specific to this set of assessments are identified below. Accommodations are allowed in the following areas when administering the FAIR-FS screening and diagnostic tasks. Given that this is an assessment of reading in English, it would be inappropriate to translate the directions given to the student, which are labeled as *Script* in the *Florida Assessments for Instruction in Reading Kindergarten – Second Grade*.

The FAIR-FS has not been piloted or normed with students identified with a low-incidence disability or students who qualify for alternative assessment. Some teachers may choose to use the FAIR-FS paper and pencil items in order to obtain descriptive information. The table below lists non-standard administration methods for students who are classified with Deafness or Visual Impairment. If needed, Braille files (.brl) and other materials may be requested, free of charge, from the Florida Instructional Materials Center 1-800-282-9193.

| FAIR-FS Task            | Administration for<br>Students with Visual Impairment  | Administration for<br>Students Who Are Deaf<br>or Hard-of-Hearing |
|-------------------------|--|---|
| Phonological Awareness  | Standard administration or Paper/pencil version  | N/A   |
| Letter Sound Knowledge  | Braille letter tiles   | N/A   |
| Following Directions    | Use manipulatives; substitute the 6 objects for 6 manipulatives that are well-known to the student | The teacher may sign the instructions.                            |
| Vocabulary Pairs        | The teacher may administer each item orally.   | The teacher may sign the words.                                   |
| Listening Comprehension | Standard administration or Paper/pencil version  | The teacher may sign the story and questions                      |
| Sentence Comprehension  | N/A  | The teacher may sign each sentence.                               |

N/A = Modifications cannot be made for these tasks and they are not appropriate for use with the specified populations.

### **Administration of the Work Sampling System**

The Work Sampling System must be administered by those who have received appropriate training. The classroom teacher is the most desirable examiner because of his or her familiarity with the student, but this may not be appropriate for every student. For instance, kindergarten teachers may not administer the Work Sampling System to students whom they taught in Voluntary Prekindergarten. Other school personnel who would be appropriate examiners include, but are not limited to, school guidance counselors, resource teachers, and instructional paraprofessionals. Because the Work Sampling System is an observational instrument, it is appropriate for individual, smallgroup, and large-group administration, depending on the specific behaviors being observed. There are 45 Work Sampling System performance indicators on the Florida Kindergarten Readiness Screener (FLKRS). Many of the items can be easily observed during large-group activities. For example, the teacher can observe whether students are following rules for conversation, gaining meaning by listening, speaking clearly enough to be understood, making transitions and following simple classroom rules and routines during large-group activities. Several of the items can be observed during small-group activities (i.e., activities with groups of three to five students). For example, the teacher can observe whether students can recognize and describe the attributes of shapes, use senses and simple tools to explore solutions to problems, and show beginning control of writing tools.

The key to efficient administration of the Work Sampling System portion of the FLKRS is to carefully plan activities that will provide opportunities for the behaviors to be observed. The teacher will find that the observable behaviors are part of the routine beginning-of-school activities and are easily integrated into lesson plans. The time to think about the mechanics of observational assessment is well before the lesson begins.

The key to using the Work Sampling System is to observe learning in context, while students are working in pairs and groups at centers or are busy at individual projects. The guiding philosophy of embedded assessment—assessment that is a natural part of the ongoing activity in the classroom—is that one can best judge what students know by watching them as they work, build, solve problems, and interact. With careful planning, it is possible to complete the Work Sampling System for a class of 18 students within 30 days due to the combination of individual, small-group, and large-group activities that can be used to elicit the behaviors being observed.

The following are some examples of specific Work Sampling System items and things a teacher can do to elicit an observable response.

Ms. Martinez, a kindergarten teacher, can elicit observable responses in the domain of Language and Literacy for the following indicators:

- Gains meaning by listening.
- Recounts some key ideas and details from text.
- Represents ideas and stories through pictures, dictation, and play.

Ms. Martinez plans several group activities each day related to the stories she reads to the class. She then completes the matrix below to gather data about the children's understanding of stories. Her informal coding system is shown at the top of this/her chart.

|                      | Code: ✓=                   | yes x = no                                    |   |
|----------------------|----------------------------|---|---|
| Weeks of 9/1 and 9/8 | Gains meaning by listening | Recounts some key ideas and details from text | Represents ideas<br>and stories through<br>pictures, dictation,<br>and play |
| Ahmed                | ✓                          | ✓   | ✓   |
| Anna                 | ✓                          | ✓   | ✓   |
| Curtis               | ✓                          | ✓   | ✓   |
| Da'Quan              | ✓                          | Х   | Х   |
| Derek                | Sometimes                  | Absent, never did this                        | Lost his focus  |
| Elsie                | ✓                          | ✓   | ✓   |
| Jacob                | ✓                          | ✓   | Х   |
| Jashana              | ✓                          | ✓   | ✓   |
| Kenny                | ✓                          | Х   | ✓   |
| Kofi                 | ✓                          | Х   | ✓   |
| LaToya               | ✓                          | Х   | ✓   |
| Magdalie             | ✓                          | Х   | Х   |
| Malik                | ✓                          | ✓   | ✓   |
| Maria                | ✓                          | ✓   | Х   |
| Mina                 | ✓                          | ✓   | ✓   |
| Sasha                | Beginning to               | Х   | Х   |
| Yolanda              | ✓                          | ✓   | Х   |
| Zachary              | ✓                          | ✓   | ✓   |

Similarly, Ms. Martinez can use the matrix to document her observations of behaviors and skills in the domain of Physical Development, Health, and Safety for each of the fine motor indicators. During centers, Ms. Martinez can keep her grid nearby to document students constructing projects out of LEGO blocks, using tape and a stapler, writing their names and other words in a journal, and dressing up in dramatic play (buttoning shirts, zipping jackets).

| Code:                | I = Independently      | W = With Help   | N = No                 |
|----------------------|------------------------|-----------------|------------------------|
| Weeks of 9/1 and 9/8 | Uses emerging strength | Uses eye-hand   | Shows beginning        |
|                      | and control to perform | coordination to | control of writing,    |
|                      | simple tasks           | perform tasks   | drawing, and art tools |
| Ahmed                | I                      | I               | I                      |
| Anna                 | W                      | I               | W                      |
| Curtis               | I                      | I               | I                      |
| Da'Quan              | I                      | I               | I                      |
| Derek                | W*                     | W*              | N                      |
| Elsie                | I                      | I               | W                      |
| Jacob                | I                      | I               | I                      |
| Jashana              | I                      | I               | W                      |
| Kenny                | I                      | W               | W                      |
| Kofi                 | I                      | I               | I                      |
| LaToya               | I                      | I               | I                      |
| Magdalie             | I                      | N               | I                      |
| Malik                | I                      | I               | I                      |
| Maria                | I                      | I               | I                      |
| Mina                 | I                      | I               | I                      |
| Sasha                | N*                     | W               | N*                     |
| Yolanda              | I                      | I               | ı                      |
| Zachary              | I                      | I               | I                      |
| NT :                 |                        |                 | •                      |

Notes:

Most classroom activities provide some opportunities for eliciting objective, observable, and measurable responses. This form is included in the Appendix along with other forms teachers can use to document student behaviors and responses efficiently. All of the forms may be reproduced for classroom use.

Because the students will be observed during authentic classroom activities and the materials for use with the FLKRS are a natural part of the typical kindergarten classroom, there is no need to use the word *test* during the administration of the Work Sampling System. Some students may be uncomfortable in the large-group classroom setting. In this case, the kindergarten teacher should provide opportunities for the student to be observed in a small-group or individual setting.

<sup>\*</sup>Derek needed assistance with scissors, tape, and stapler.

<sup>\*</sup>Sasha could not remove the lids from markers. Could grasp neither the pencil nor paintbrush to use the tools successfully.

Following the screening during the first 30 days of school, the results should be entered into the Progress Monitoring & Reporting Network (PMRN) as part of the Work Sampling System.

# Administration of the Florida Assessments for Instruction in Reading – FS Portion of the FLKRS

### **Administration Guidelines for FLKRS**

All K-2 screening assessment tasks and K-2 diagnostic assessment tasks are administered via computer with an external mouse. Only the Reading Comprehension and Print Awareness tasks require paper materials

- Have all your materials available to save administration time.
- Choose a testing space in as quiet and non-distracting an area as possible.
- Make the student feel at ease.
- Stop testing if the student is no longer attending to the task.
- Praise student effort, not accuracy. Try using the expression "You are working hard" when a student asks for feedback.
- Avoid teachable moments. There will be instructional time later.
- The icon with the computer screen facing the teacher and away from the student indicates that the teacher should orient the computer screen so that it is not viewable by the student.
- The icon with the computer screen facing both the teacher and the student indicates that the screen needs to be viewable by the student and requires either the student or the teacher to click to indicate the correct response.
- If the test is considered invalid for a particular student, contact your building administrator with the reason.

### Screening Tasks (Alphabetics, Oral Language, and Comprehension)

- Administer to students individually.
- Administer to all students.
- Use the Kindergarten Probability of Literacy Success Chart for Assessment Period 1 to determine each student's Reading Success Zone (i.e., Green Success Zone [.85–.94, or 85–94 percent]; Yellow Success Zone [.17–.84, or 17–84 percent]; Red Success Zone [.09–.15, or 9–15 percent]).

### **Diagnostic Tasks**

Diagnostic tasks are only required for those schools that use FAIR-FS broadly for progress monitoring purposes. This is administered to all students with a Probability of Literacy Success (PLS) of less than .85.

For a thorough explanation of administration and scoring procedures for the FAIR-FS, school and district staff should refer to the *Florida Assessments for Instruction in Reading aligned to Florida Standards: Kindergarten – Second Grade Administration Manual.* 

### **Entering Data into the PMRN**

### **Demographic Information**

Selective demographic information will need to be entered into the PMRN.

### Observations and Scores

Now you will learn how to enter the WSS/FAIR-FS observations and scores in the PMRN using the K-2 EST. It is important to note that users will not be able to access and view the WSS screens after the first 30 school days. WSS reports will be available in late October or early November.

The following assumptions will be made regarding the teacher's ability to observe the noted if a student is indicated as having a "Potentially Limiting Physical Condition" on the PMRN student demographic screen. Performance indicator ratings of *Not Yet/In Process/Proficient* will be accepted if indicated.

Keep in mind that the total WSS score is based on the teacher's observation of the student's performance on a maximum of 45 performance indicators across five developmental areas during the first 30 days of school. For some students, the total WSS score may be based on fewer indicators.

WSS criterion referenced performance ratings for each indicator are assigned as follows:

| WSS Rating      | Point Value |
|-----------------|-------------|
| NY (Not Yet)    | 1           |
| IP (In Process) | 2           |
| P (Proficient)  | 3           |

The following table illustrates recommended scores for domains and total assessment for FLKRS:

| Domain             | Number of<br>Indicators Rated | Not Yet | In Process | Proficient |
|--------------------|-------------------------------|---------|------------|------------|
| Personal           | 12                            | 12-20   | 21-32      | 33-36      |
| and Social         | 11                            | 11-18   | 19-29      | 30-33      |
| Development        | 10                            | 10-17   | 18-27      | 28-30      |
|                    | 9                             | 9-15    | 16-24      | 25-27      |
| Language and       | 10                            | 10-17   | 18-27      | 28-30      |
| Literacy           | 9                             | 9-15    | 16-24      | 25-27      |
|                    | 8                             | 8-13    | 14-21      | 22-24      |
| Mathematical       | 12                            | 12-20   | 21-32      | 33-36      |
| Thinking           | 11                            | 11-18   | 19-29      | 30-33      |
|                    | 10                            | 10-17   | 18-27      | 28-30      |
|                    | 9                             | 9-15    | 16-24      | 25-27      |
| Scientific         | 4                             | 4-6     | 7-10       | 11-12      |
| Thinking           | 3                             | 3-4     | 5-7        | 8-9        |
| Physical           | 7                             | 7-11    | 12-18      | 19-21      |
| Development,       | 6                             | 6-10    | 11-16      | 17-18      |
| Health, and Safety | 5                             | 5-8     | 9-13       | 14-15      |
| TOTAL              | 45                            | 45-77   | 78-122     | 123-135    |
|                    | 44                            | 44-76   | 77-120     | 121-132    |
|                    | 43                            | 43-74   | 75-117     | 118-129    |
|                    | 42                            | 42-73   | 74-115     | 116-126    |
|                    | 41                            | 41-71   | 72-112     | 113-123    |
|                    | 40                            | 40-69   | 70-109     | 110-120    |
|                    | 39                            | 39-67   | 68-106     | 107-117    |
|                    | 38                            | 38-66   | 67-104     | 105-114    |
|                    | 37                            | 37-64   | 65-101     | 102-111    |
|                    | 36                            | 36-62   | 63-98      | 99-108     |
|                    | 35                            | 35-60   | 61-95      | 96-105     |
|                    | 34                            | 34-59   | 60-93      | 94-102     |

### **FLKRS WSS Developmental Checklist**

To assist you with recording student observations, a developmental checklist is provided in the Appendix. Should you find it more convenient to complete all observations using the checklist, it can be copied for each student in your class. Please transfer your observations from the checklist to the appropriate FLKRS PMRN record for each student by clicking Not Yet, In Process, or Proficient.

### Follow-up of Screening Results

Because data from the screening instruments serve as only one source of information about a student, significant decisions that influence educational services for any student should be based on multiple sources of information obtained over a period of time.

Screening information from the FLKRS may be helpful in planning classroom and small-group instruction and in conferencing with parents.

If the student's outcome on WSS is in the *Not Yet* category, a specific plan for improvement may be needed. Please refer to Section 1008.25, F.S., for information about the development of progress monitoring plans.

The FAIR-FS provides valuable information at the individual student, classroom, school, and district levels.

For the individual student, these results can be used to:

- identify learning needs
- set instructional goals
- monitor instructional progress
- evaluate progress towards the end-of-year benchmarks
- provide parents with student progress in the key elements of reading

For the classroom, these results can be used to:

- create instructional groups
- link instructional routines to support student progress
- monitor student progress throughout the year
- inform parents of student success in the key elements of reading

For schools, these results can be used to:

- use data to organize and plan instruction
- evaluate the effectiveness of programs, materials and instructional strategies
- identify where resources are needed to support reading instruction
- provide parent support to enhance student success in reading

For districts, these results can be used to:

- identify schools where resources are needed to support reading instruction
- improve professional development opportunities to support teacher instruction and student success

### **District Coordinator Responsibilities**

In each district, the District Coordinator is responsible for the overall administration of FLKRS. District Coordinators are to ensure that test administrators have been sufficiently trained to administer both the WSS and the FAIR-FS portions of the FLKRS.

### **Training of School Test Coordinators/Test Administrators**

District Coordinators are responsible for providing training to School Test Coordinators and/or school test administrators in order to ensure a valid and uniform administration of the FLKRS screening instruments. District Coordinators, or their designees, should have participated in the Train-the-Trainer training conducted by the Florida Center for Reading Research as well as thoroughly read and understood the FLRKS Administration Manual, the Florida Assessments for Instruction in Reading aligned to the Florida Standards: Kindergarten – Second Grade Administration Manual, and the PMRN User's Guide.

The District Coordinator or his/her designee is responsible for conducting appropriate training to all public and non-public school personnel who will be administering the kindergarten screening. This training should include the following topics:

- Using the PMRN
- Scoring the WSS
- Scoring the FAIR-FS

### **School Test Coordinator Responsibilities**

The School Test Coordinator is responsible for ensuring all test administrators are trained to administer the FLKRS and that they have access to the PMRN, where all testing materials will be located.

School Test Coordinators should be familiar with the *FLKRS Administration Manual*, the *Florida Assessments for Instruction in Reading aligned to the Florida Standards: Kindergarten – Second Grade Administration Manual*, and the *PMRN User's Guide*.

It is expected that the School Test Coordinator will be the school principal's designee for managing and giving access to the PMRN to individual test administrators (classroom teachers). Therefore, it is the responsibility of the School Test Coordinator to ensure that each test administrator has access to the system and is sufficiently trained to administer the FLKRS and correctly input FLKRS data into the PMRN.

### **Test Administrator Responsibilities**

Test administrators, generally kindergarten classroom teachers, are responsible for the actual screening of kindergarteners on the two FLKRS instruments and recording that information in the PMRN. Test administrators must be trained prior to administering FLKRS and should have read and be familiar with the *FLKRS Administration Manual*, the *Florida Assessments for Instruction in Reading aligned to the Florida Standards: Kindergarten – Second Grade Administration Manual*, and the *PMRN User's Guide*.

Test administrators are responsible for observing their students within the first 30 days of school and recording their observations for the 45 WSS performance indicators in the PMRN. Test administrators should refer to the *PMRN User's Guide* for information about entering the observations. The WSS Reference Table in this manual should also be used as a reference for each WSS performance indicators and for the purposes of designing classroom activities to allow for observation opportunities.

Test administrators are also responsible for administering the FAIR-FS. Prior to administration, test administrators are responsible for ensuring that they have the materials needed to correctly administer the FAIR-FS in accordance with the *Florida Assessments for Instruction in Reading aligned to the Florida Standards: Kindergarten – Second Grade Administration Manual.* 

# **Appendix**

# Work Sampling System Reference Table

| WSS Domains/Functional<br>Components | Performance Indicators  | Not Yet | In<br>Process | Proficient | Suggested Classroom Activity<br>(WC=Whole Class, SG=Small Group, I=Individual)  |
|--------------------------------------|---|---------|---------------|------------|---|
| Personal and Social Development      |   |         |               |            |   |
| A. Self-Concept                      | Demonstrates self-confidence.     Shows some self-direction.  |         |               |            | SG or I: Teacher provides daily opportunities for child to self-select activities, such as choosing a role in dramatic play, or deciding to build an airport with blocks, forming a plan, and then implementing it with others already working with the blocks.   |
| B. Self-Control                      | <ol> <li>Follows simple classroom rules and routines.</li> <li>Manages transitions.</li> </ol>  |         |               |            | WC or SG: Daily with students, teacher discusses, models, and helps scaffold student's understanding of class rules. Teacher observes students interacting, noting if "kind words" and classroom rules are followed.  |
| C. Approaches to Learning            | Shows eagemess and curiosity as a learner.     Attends to tasks and seeks help when encountering a problem.     Approaches tasks with flexibility and inventiveness.  |         |               |            | WC or SG: Teacher provides activities with enough time for children to demonstrate persistence and flexible solutions with potentially difficult tasks. Teacher might look for children to follow teacher suggestions for solving a problem (e.g., understanding that putting another block at the base of the tower would make it more stable), or try several different ways to form Play-Doh into a specific object. |
| D. Interaction With Others           | <ol> <li>Interacts easily with one or more children.</li> <li>Interacts with familiar adults.</li> <li>Participates in the group life of the class.</li> <li>Identifies some feelings and responds to those of others.</li> <li>Begins to use simple strategies to resolve conflict.</li> </ol> |         |               |            | WC or SG: Daily, teacher provides opportunities for children to interact with each other during learning experiences. Teacher observes children working cooperatively with each other to paint on the same side of the easel; or giving alternatives to friends, such as, "I'm playing with these, you play with those."  |
| Language and Literacy                |   |         |               |            |   |
| A. Listening                         | <ol> <li>Gains meaning by listening.</li> <li>Follows two- or three-step directions.</li> </ol>   |         |               |            | SG or I: Teacher provides activities that require children to listen to instructions, stories, or conversations. For example, teacher looks for child to listen to recorded stories and demonstrate understanding through body language or pointing to appropriate pictures. Or, teacher observes child response during daily pack-up routine to see how the child manages familiar routines.                           |
| B. Speaking                          | Speaks clearly enough to be understood without contextual clues.     Follows rules for conversation.     Uses expanded vocabulary and language for a variety of purposes.   |         |               |            | WC, SG, or I: Teacher considers how effectively the child can communicate his/her message, for example, without constantly asking, "What did you say?" Teacher can also use sensory activities (during art or science) to give opportunities for the child to use sensory language to describe the experience (e.g., the sand-paper felt scratchy). The teacher may ask, "What is another name for that?"               |
| C. Reading                           | Shows appreciation and understanding of books and reading.     Recounts some key ideas and details from text.   |         |               |            | SG: In the book area, the teacher observes children looking at books in an orderly fashion (e.g., turning one page at a time, going from front to back). Daily, the teacher provides opportunities for children to retell main events of a story just read or told by the teacher.  |
| D. Writing                           | Represents ideas and stories through pictures, dictation, and play.     Uses letter-like shapes, symbols, and letters to convey meaning.     Understands purposes for writing.  |         |               |            | SG: In dramatic play, the teacher observes children pretending to use a menu and writing orders on a note pad; During other times of the day, the teacher asks children to write their own names on their artwork, or to 'sign in" when they arrive in the classroom.   |

| WSS Domains/Functional Components        | Performance Indicators   | Not Yet | In<br>Process | Proficient | Suggested Classroom Activity (WC=Whole Class, SG=Small Group, I=Individual)   |
|--|--|---------|---------------|------------|---|
| Mathematical Thinking                    | -  |         |               | -          |   |
| A. Processes and Practices               | Begins to make sense of problems and uses simple strategies to solve them.     Reasons quantitatively and begins to use some tools.     Juses words and representations to describe mathematical ideas.     Begins to recognize patterns and makes simple generalizations.   |         |               |            | WC or SG: Teacher provides opportunities for children to solve simple mathematical problems in concrete ways. Examples include: matching cookies to children to find out if they have enough for everyone to have two, having children draw or use counters to demonstrate simple number stories ("I have three brothers.") and using an app to complete a pattern (e.g., out of train cars).   |
| B. Number                                | Counts with understanding.     Shows beginning understanding of number and quantity.   |         |               |            | WC: During morning group time, teacher asks children to count items, such as the number of girls present, or blocks on a tray, looking for beginning one-to-one counting correspondence.  |
| C. Operations and Algebraic<br>Thinking  | <ol> <li>Understands and begins to apply addition and<br/>subtraction to problems.</li> </ol>  |         |               |            | SG: During small group time, the teacher asks children to respond to "take away one" questions beginning with five counters (e.g., "How many are there now?") until there is only one left.   |
| D. Measurement                           | Orders, compares, and describes objects according to a single attribute.     Participates in measuring activities.   |         |               |            | WC: During class transition time, the teacher poses measurement questions that require children to notice which children in the class are taller and which are shorter.   |
| E. Geometry                              | Shows understanding of and uses several positional words.     Begins to recognize and describe the attributes of shapes.     Composes and decomposes shapes.   |         |               |            | WC or SG; Teacher uses a "feely box" to have children label shapes by their feel rather than appearance. The same shapes can then be used to create a building that looks like a house (e.g., using rectangles and triangles).  |
| Scientific Thinking                      |  |         |               |            |   |
| A. Inquiry Skills and Practices          | Asks questions and begins to solve problems that arise during explorations.     Uses senses and simple tools to explore solutions to problems.     Makes meaning from explorations, and generates ideas and solutions based on their own observations of the natural and human-made worlds.     Communicates experiences, observations, and ideas with others through conversations, representations, and/or behavior. |         |               |            | SG: Teacher provides hands-on opportunities for children to test theories and explore solutions. For example, at recess, children may test and chart their ideas about what shapes will slide and/or roll on a ramp, or observe caterpillars with magnifying glasses and discuss with the teachers and/or peers what they see and the differences and similarities between the caterpillars. In a science center, children may take apart a flashlight to see what's inside. During each of these activities, the teacher notes how children discuss their observations with peers and collaborate to solve problems. |
| Physical Development, Health, and Safety | d Safety   |         |               |            |   |
| A. Gross Motor Development               | Moves with increased balance and control.     Coordinates combined movement patterns to perform simple tasks.  |         |               |            | WC or I: Teachers observe children during recess or physical movement activities to notice mastery over running skills, using a slide, seesaw, or swings.   |
| B. Fine Motor Development                | Uses emerging strength and control to perform simple tasks.     Uses eye-hand coordination to perform tasks.     Shows beginning control of writing, drawing, and art tools.   |         |               |            | SG or I: During writing or art activities, teacher can observe fine motor control and strength as children remove caps from markers, cut on a line, or try a variety of ways to make brush strokes at the easel.  |
| C. Self-Care, Health, and Safety         | <ol> <li>Performs some self-care tasks independently.</li> <li>Follows basic safety rules with reminders.</li> </ol>   |         |               |            | WC, SG, or I: During routine activities such as snack time or transitions, teachers can observe children performing tasks independently and safely. For example, a child taking apple slices from the snack platter, or waiting one's turn when packing up for the day.   |

# **Example for Fine Motor Functional Component**

| Date(s) of   | Observation:   |   |  |
|--------------|--|---|--|
| Child's Name | Uses emerging strength and control to perform simple tasks | Uses eye-hand coordination to perform tasks | Shows beginning control of writing, drawing, and art tools |
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Note: This form is an example for collecting observational information for the class on specific indicators.

# **Example from Language and Literacy Domain**

| Date(s) of   | Observation:               |   |   |
|--------------|----------------------------|---|---|
| Child's Name | Gains meaning by listening | Recounts some key ideas and details from text | Represents ideas<br>and stories through<br>pictures, dictation,<br>and play |
|              |                            |   |   |
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Note: This form is an example for collecting observational information for the class on specific indicators.

### The Developmental Checklist

This Checklist assists teachers in observing, recording, and evaluating an individual child's skills, knowledge, behaviors, and accomplishments.

The Checklist reflects common experiences and expectations in classrooms that are structured around activities appropriate for most children of this age. Teachers should be able to complete the Checklist without actually testing their children, although some items may require teachers to set up specific opportunities or activities that enable their students to demonstrate specific skills. We recommend that these activities be integrated into typical classroom routines as much as possible.

### **Developmental Guidelines**

The Checklist presents each specific skill, behavior, or accomplishment in the form of a one-sentence performance indicator. The Checklist for each age or grade level is accompanied by a set of detailed Developmental Guidelines that



explain and elaborate on each performance indicator by providing a rationale and examples. The rationale provides a context that explains the meaning and importance of the indicator and briefly outlines reasonable expectations for children of this age. The examples show several ways children might demonstrate the skill or accomplishment represented by the indicator. Since teachers might otherwise interpret the same indicator in different ways, the Guidelines promote consistency of interpretation and evaluation across children, teachers, and schools. The Guidelines incorporate information from a wide array of resources including research, expert advice, and state and national learning standards including Common Core. The Guidelines are essential for correct and effective use of the Checklist.

### **Checklist Ratings**

These categories reflect the degree to which children have acquired the skill, behavior, and/or demonstrated the accomplishments required by each of the performance indicators listed in the Checklist and described in the Guidelines. Three types of ratings are possible:

**Not Yet** — indicates that this child cannot perform this indicator, i.e., that this performance indicator rep-

resents a skill, an area of knowledge, or a specific set of behaviors or accomplishments that the child has not acquired.

**In Process** — implies that the skills, knowledge, behaviors, or accomplishments represented by this indicator are intermittent or emergent, and are not demonstrated reliably or consistently.

**Proficient** — means that this child's skill, knowledge, or behavior matches the end-of-year expectations described in the rationales in the Guidelines. Although the child may have advanced beyond the level of difficulty of the indicator, and may no longer participate in activities that are described by the indicator, if the teacher has observed the child perform such tasks, and if the tasks are clearly within the child's range or repertoire, the indicator should be marked "Proficient."

If a particular indicator covers an area of the curriculum that is not included in this classroom, or that has not yet been introduced to this student, write "NA" for "Not Applicable." Space is also available on the front of the Checklist for brief comments. If there is a lack of evidence for a particular indicator for a child, write "DNO" for "Did Not Observe."

### **PEARSON**

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| Fall Observation Period |  |  |
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|                 | Personal and Social Develo                        | oment                        |   | Speaking                                 |
|-----------------|---|------------------------------|---|--|
|                 | Self-Concept                                      | F                            | 1 | Speaks clearly enough to be understood   |
|                 | Demonstrates self-confidence.                     | Not Yet □                    |   | without contextual clues.                |
|                 |   | In Process                   | 2 | Follows rules for conversation.          |
|                 |   | Proficient 🗆                 |   |  |
|                 | Shows some self-direction.                        | Not Yet 🗌                    | _ |  |
|                 |   | In Process                   | 3 | Uses expanded vocabulary and language    |
|                 |   | Proficient 🗆                 |   | for a variety of purposes.               |
| 5               | Self-Control                                      | F                            |   |  |
|                 | Follows simple classroom                          | Not Yet □                    |   |  |
|                 | rules and routines.                               | In Process 🗆                 | C | Reading                                  |
|                 |   | Proficient 🗆                 | 1 | Shows appreciation and understanding of  |
| Γ               | Manages transitions.                              | Not Yet □                    |   | books and reading.                       |
|                 |   | In Process ☐<br>Proficient ☐ | _ |  |
|                 |   | Proficient 🗀                 | 2 | Recounts some key ideas and              |
| P               | Approaches to Learning                            | F                            |   | details from text.                       |
|                 | Shows eagerness and                               | Not Yet □                    |   |  |
|                 | curiosity as a learner.                           | In Process                   | D | Writing                                  |
|                 |   | Proficient 🗆                 | 1 | Represents ideas and stories through     |
|                 | Attends to tasks and seeks help when              | Not Yet □                    |   | pictures, dictation, and play.           |
| е               | ncountering a problem.                            | In Process ☐<br>Proficient ☐ | _ |  |
| ^               | approaches tasks with flexibility                 | Proficient □  Not Yet □      | 2 | Uses letter-like shapes, symbols, and    |
|                 | nd inventiveness.                                 | In Process                   |   | letters to convey meaning.               |
| a               | ווע ווועכוונועכווכטט.                             | Proficient                   | 2 | Understands purposes for writing.        |
| I۳              | nteraction With Others                            | -                            | , | officerstatios purposes for writing.     |
|                 |   | r                            |   |  |
| ln <sup>-</sup> | teracts easily with one or more children.         | Not Yet ☐                    | П | Mathematical Thinking                    |
|                 |   | In Process ☐<br>Proficient ☐ |   |  |
| lr              | nteracts easily with familiar adults.             | Not Yet □                    | Α | Processes and Practices                  |
| Ш               | craces easily with familial addits.               | In Process                   | 1 | Begins to make sense of problems and     |
|                 |   | Proficient                   |   | uses simple strategies to solve them.    |
| Pá              | articipates in the group life of the class.       | Not Yet □                    | 2 | Reasons quantitatively and begins to     |
|                 |   | In Process                   | 2 | use some tools.                          |
|                 |   | Proficient 🗆                 |   | use some tools.                          |
|                 | Identifies some feelings and responds to          | Not Yet ☐                    | 3 | Uses words and representations to        |
|                 | those of others.                                  | In Process ☐                 | - | describe mathematical ideas.             |
| г               | Paging to use simple strataging to                | Proficient L                 |   |  |
|                 | Begins to use simple strategies to                | Not Yet ☐<br>In Process ☐    | 4 | Begins to recognize patterns and makes   |
|                 | resolve conflict.                                 | Proficient                   |   | simple generalizations.                  |
|                 | Language and Literacy                             | <del>-</del>                 |   |  |
|                 |   | <u>-</u>                     | В | Number                                   |
|                 | stening   | F                            | 1 | Counts with understanding.               |
| (               | Gains meaning by listening.                       | Not Yet                      |   | -  |
|                 |   | In Process 🗆                 |   |  |
|                 | Follows two or three stee directions              | Proficient ☐                 | 2 | Shows beginning understanding of         |
| H               | ollows two- or three-step directions.             | Not Yet ☐<br>In Process ☐    |   | number and quantity.                     |
|                 |   | Proficient                   |   |  |
|                 |   | 1 Toncient 🗀                 | C | Operations and Algebraic Thinking        |
|                 |   |                              | 1 | Understands and begins to apply addition |
|                 |   |                              |   | and subtraction to problems.             |
| ,               | <b>/et</b> —child cannot demonstrate indicator    | F = FALL                     |   |  |
|                 | ocess—child demonstrates indicator intermittently | W = WINTER                   |   |  |
| rc              |   |                              |   |  |
|                 | ient—child can reliably demonstrate indicator     | S = SPRING                   |   |  |

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| D  | Measurement  | F   | C | Self-Care, Health, and Safety                |             |                           | F       |
|----|--|---|---|--|-------------|---------------------------|---------|
| 1  | Orders, compares, and describes objects according to a single attribute.   | Not Yet ☐<br>In Process ☐<br>Proficient ☐ | 1 | Performs some self-care tasks independently. | In Pr       | ot Yet<br>ocess           |         |
| 2  | Participates in measuring activities.  | Not Yet ☐ In Process ☐ Proficient ☐       | 2 | Follows basic safety rules with reminders.   | No<br>In Pr | ot Yet<br>ocess<br>icient |         |
| Ε  | Geometry   | F   |   |  |             |                           |         |
| 1  | Shows understanding of and uses several positional words.  | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   |  | 5th         | _                         |         |
| 2  | Begins to recognize and describe the attributes of shapes.   | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   |  | Edition     | 4                         |         |
| 3  | Composes and decomposes shapes.  | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   | Observa<br>Periods                           | TEACHER     | DATI                      | STUDENT |
| I۱ | Scientific Thinking  |   |   | Observation<br>Periods                       | HER         | DATE OF BIRTH             | DENT    |
| Α  | Inquiry Skills and Practices   | F   |   | 9  |             | 로                         |         |
| 1  | Asks questions and begins to solve problems that arise during explorations.  | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   |  |             |                           |         |
| 2  | Uses senses and simple tools to explore solutions to problems.   | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   |  | SC          |                           |         |
| 3  | Makes meaning from explorations, and generates ideas and solutions based on their own observations of the natural and human-made worlds. | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   |  | SCHOOL      |                           |         |
| 4  | Communicates experiences, observations, and ideas with others through conversations, representations, and/or behavior.                   | Not Yet □<br>In Process □<br>Proficient □ |   |  |             | FEMALE                    |         |
| V  | Physical Development, Healt and Safety   | h,  |   | The Wol                                      |             | MALE                      |         |
| Α  | Gross Motor Development  | F   |   | e Wor  |             |                           |         |
| 1  | Moves with increased balance and control.  | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   | rk Samplin<br>Pr<br>lopmental                |             |                           |         |
| 2  | Coordinates combined movement patterns to perform simple tasks.  | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   | _ n Q  |             |                           |         |
| В  | Fine Motor Development   | F   |   | Che  |             |                           |         |
| 1  |  | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   | y System-<br>eschool-4<br>Checklist          |             |                           |         |
| 2  | Uses eye—hand coordination to perform tasks.   | Not Yet  In Process  Proficient           |   | F - •  |             |                           |         |
| 3  | Shows beginning control of writing, drawing, and art tools.  | Not Yet ☐<br>In Process ☐<br>Proficient ☐ |   |  |             |                           |         |

| General Process Notes | Teacher | Page of | Th. | The Work Sampling System® |
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# Research Support and Reference List for FLKRS

Domains and Indicators from the Work Sampling System, 5th Edition (WSS) selected for use as a kindergarten readiness screener align with Florida's Early Learning and Developmental Standards for Four-Year-Olds, 2011. The selected Domains and Indicators represent the core set of common indicators for school readiness referenced in the report, Findings from the National School Readiness Indicators Initiative – A 17 State Partnership prepared by *Rhode Island Kids Count* in February 2005.

### This report states:

There is consensus, based upon a wealth of research, that a child's readiness for school should be measured and addressed across five distinct but connected domains:

- Social and Emotional Development
- Approaches to Learning
- Language Development
- · Cognition and General Knowledge
- Physical Well-Being and Motor Development

WSS Domains and Indicators were created based on the most up-to-date research, state standards, and expert advice. FLKRS WSS Domains and Indicators are listed below, followed by the references and research used to guide their development. These references pertain specifically to skill sets shown to be critical to kindergarten readiness.

## I. Personal and Social Development

- A Self-Concept
  - 1 Demonstrates self-confidence.
  - 2 Shows some self-direction.
- B Self-Control
  - 1 Follows simple classroom rules and routines.
  - 2 Manages transitions.
- C Approaches to Learning
  - 1 Shows eagerness and curiosity as a learner.
  - 2 Attends to tasks and seeks help when encountering a problem.
  - 3 Approaches tasks with flexibility and inventiveness.
- D Interaction with Others
  - 1 Interacts easily with one or more children.
  - 2 Interacts with familiar adults.
  - 3 Participates in the group life of the class.
  - 4 Identifies some feelings and responds to those of others.
  - 5 Begins to use simple strategies to resolve conflict.

- Alexander, K. L., Entwisle D. R., & Dauber, S. L. (1993). First grade classroom behavior: Its short- and long-term consequences for school performance. *Child Development*, 64(3), 801–814.
- Birch, S.H., & Ladd, G.W. (1997). The teacher-child relationship and children's early school adjustment. Journal of School Psychology, 35(1), 61–79.
- Denham, S. (2006). The emotional basis of learning and development in early childhood education. In B. Spodek & O. N. Saracho (Eds.), *Handbook of research on the education of young children* (2nd ed.) (pp. 85–103). Mahwah, NJ: Lawrence Erlbaum Associates.
- Denham, S. A., & Weissberg, R. P. (2004). Social-emotional learning in early childhood: What we know and where to go from here. In E. Chesebrough, P. King, T. P. Gullotta, & M. Bloom (Eds.), *A blueprint for the promotion of pro-social behavior in early childhood* (pp. 13–50). New York, NY: Kluwer/Academic Publishers.
- Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., ... Japel, C. (2007). School readiness and later achievement. *Developmental Psychology*, 43(6), 1428–1446.
- Dunn, J. (1993). *Young children's close relationships: Beyond attachment*. Newbury Park, CA: SAGE Publications.
- Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*, 72(2), 625–638.
- Howes, C., & Spieker, S. (2010). Attachment relationships in the context of multiple caregivers. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment* (2nd ed., pp. 317–332). New York, NY: Guilford Press.
- Izard, C. E. (2002). Emotion knowledge and emotion utilization facilitate school readiness. *SRCD Social Policy Report*, *16*(3), 8.
- Izard, C., Fine, S., Schultz, D., Mostow, A., Adkerman, B., & Youngstrom, E. (2001). Emotion knowledge as a predictor of social behavior and academic competence in children at risk. *Psychological Science*, *12*(1), 18–23.
- Ladd, G. W., Kocherderfer, B. J., & Coleman, C. C. (1996). Friendship quality as a predictor of young children's early school adjustment. *Child Development*, 67(3), 1103–1118.
- Ladd, G. W., Kocherderfer, B. J., & Coleman, C. C. (1997). Classroom peer acceptance, friendship, and victimization: Distinct relational systems that contribute uniquely to children's school adjustment? *Child Development*, 68(6), 1181–1197.
- La Paro, K. M., & Pianta, R. C. (2000). Predicting children's competence in the early school years: A meta-analytic review. *Review of Educational Research*, 70(4), 443–484.

McClelland, M. M., Morrison, F. J., & Holmes, D. L. (2000). Children at risk for early academic problems: The role of learning-related social skills. *Early Childhood Research Quarterly*, 15(3), 307–329.

Pianta, R. C., & Stuhlman, M. W. (2004a). Teacher-child relationships and children's success in the first years of school. *School Psychology Review*, *33*(3), 444–458.

Pianta, R. C., & Stuhlman, M. W. (2004). Conceptualizing risk in relational terms: Associations among the quality of child-adult relationships prior to school entry and children's developmental outcomes in first grade. *Educational and Child Psychology*, 21(1), 32–45.

Yen, C.-J., Konold, T. R., & McDermott, P. A. (2004). Does learning behavior augment cognitive ability as an indicator of academic achievement? *Journal of School Psychology*, 42(2), 157–169.

### **II** Language and Literacy

- A Listening
  - 1 Gains meaning by listening.
  - 2 Follows two- or three-step directions.

# **B** Speaking

- 1 Speaks clearly enough to be understood without contextual clues.
- 2 Follows rules for conversation.
- 3 Uses expanded vocabulary and language for a variety of purposes.
- C Reading
  - 1 Shows appreciation and understanding of books and reading.
  - 2 Recounts some key ideas and details from text.
- D Writing
  - 1 Represents ideas and stories through pictures, dictation, and play.
  - 2 Uses letter-like shapes, symbols, and letters to convey meaning.
  - 3 Understands purposes for writing.

Brigman, G., Lane, D., Switzer, D., Lane, D., & Lawrence, R. (1999). Teaching children school success skills. *The Journal of Educational Research*, 92(6), 323–329.

Cambourne, B. (December 2000/January 2001). Conditions for literacy learning: Turning learning theory into classroom instruction: A minicase study. *The Reading Teacher*, *54*, 414–417.

Chomsky, C. (1979). Approaching reading through invented spelling. In L. B. Resnick & P. A. Weaver (Eds.), *Theory and practice of early reading* (Vol. 2, pp. 43–65). Hillsdale, NJ: Lawrence Erlbaum Associates.

Clarke, L. K. (1988). Invented versus traditional spelling in first graders' writings: Effects on learning to spell and read. *Research in the Teaching of English*, *22*, 281–309.

Common Core State Standards [for English Language Arts and Literacy]. (2010). Retrieved from http://www.corestandards.org/assets/CCSSI\_ELA%20Standards.pdf

Copple, C., & Bredekamp, S. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3rd ed.). Washington, DC: National Association for the Education of Young Children.

Feldman, K., & Kinsella, K. (2005). *Narrowing the language gap: The case for explicit vocabulary instruction*. Scholastic Professional Paper. New York, NY: Scholastic, Inc. Retrieved from http://teacher.scholastic.com/products/authors/pdfs/Narrowing\_the\_Gap.pdf

Jalongo, M. R. (2004). *Young children and picture books* (2nd ed.). Washington, DC: National Association for the Education of Young Children. Retrieved from http://www.naeyc.org/store/files/store/TOC/160.pdf

Jalongo, M. R. (2006). *Early childhood language arts* (4th ed.). Boston, MA: Allyn & Bacon.

Lane, H. B., & Allen, S. A. (2010, February). The vocabulary-rich classroom: Modeling sophisticated word use to promote word consciousness and vocabulary growth. *The Reading Teacher*, 63(5), 362–370.

Montgomery, J. W., Windsor, J., & Stark, R. E. (1991). Specific speech and language disorders. In J. E. Obrzut & G. W. Hynd (Eds.), *Neuropsychological foundations of learning disabilities: A handbook of issues, methods, and practice* (pp. 573–601). San Diego, CA: Academic Press.

Mosenthal, P. B. (1999). Understanding engagement: Historical and political contexts. In J. T. Guthrie & D. E. Alvermann (Eds.), *Engaged reading: Processes, practices, and policy implications* (pp. 1–16). New York, NY: Teachers College Press.

National Association for the Education of Young Children. (1998). Learning to read and write: Developmentally appropriate practices for young children: A joint position statement of the International Reading Association and the National Association for the Education of Young Children. 53(4), 30–46. Retrieved from http://www.naeyc.org/files/naeyc/file/positions/PSREAD98.PDF

Nodelman, P., & Reimer, M. (2003). *The pleasures of children's literature* (3rd ed.). Boston, MA: Allyn & Bacon.

Ouellette, G., Sénéchal, M., & Haley, A. (2013). Guiding children's invented spellings: A gateway into literacy learning. *Journal of Experimental Education*, 81(2), 261–279.

Pearson, P. D., Hiebert, E. H., & Kamil, M. L. (2007). Vocabulary assessment: What we know and what we need to learn. *Reading Research Quarterly*, 42(2), 282–296.

Public Broadcasting System. (n.d.). *Child development/PBS parents: Child development tracker.* Retrieved from www.pbs.org/parents/child-development/

Sénéchal, M., Ouellette, G., Pagan, S., & Lever, R. (2012). The role of invented spelling on learning to read in low-phoneme awareness kindergartners: A randomized-control-trial study. *Reading and Writing: An Interdisciplinary Journal*, 25(4), 917–934.

### **III Mathematical Thinking**

- A Processes and Practices
  - 1 Begins to make sense of problems and uses simple strategies to solve them.
  - 2 Reasons quantitatively and begins to use some tools.
  - 3 Uses words and representations to describe mathematical ideas.
  - 4 Begins to recognize patterns and makes simple generalizations.
- **B** Number
  - 1 Counts with understanding.
  - 2 Shows beginning understanding of number and quantity.
- C Operations and Algebraic Thinking
  - 1 Understands and begins to apply addition and subtraction to problems.
- D Measurement
  - 1 Orders, compares, and describes objects according to a single attribute.
  - 2 Participates in measuring activities.
- E Geometry
  - 1 Shows understanding of and uses several positional words.
  - 2 Begins to recognize and describe the attributes of shapes.
  - 3 Composes and decomposes shapes.

Baroody, A. J. (1992). The development of preschoolers' counting skills and principles. In J. Bideaud, C. Meljac, & J. P. Fischer (Eds.), *Pathways to number* (pp. 99–126). Hillsdale, NJ: Erlbaum.

Clements, D. H., & Sarama, J. (2009). *Learning and teaching early math: The learning trajectories approach.* New York, NY: Routledge.

Clements, D. H. (1999). Geometry and spatial thinking in young children. In J. Copley (Ed.), *Mathematics in the early years* (pp. 66–79). Reston, VA: National Council of Teachers of Mathematics and Washington, DC: National Association for the Education of Young Children.

Copley, J. (2008). [Videotapes of 3- and 4-year-old problem solvers]. (Private Collection), portions published by NAEYC and Office of Head Start, Washington, DC.

Gelman, R., & Gallistel, C.R. (1978). *The child's understanding of number*. Cambridge, MA: Harvard University Press.

Kamii, C., Kirkland, L., & Lewis, B. (2001). Representation and abstraction in young children's numerical reasoning. In A. A. Cuoco & F. R. Curcio (Eds.), *The roles of representation in school mathematics* (pp. 24–34). Reston, VA: National Council of Teachers of Mathematics.

Mason, J. (2008). Making use of children's powers to produce algebraic thinking. In J. Kaput, D. Carraher, & M. Blanton (Eds.), *Algebra in the early grades* (pp. 57–94). Hillsdale, NJ: Erlbaum Associates and Reston, VA: National Council of Teachers of Mathematics.

National Association for the Education of Young Children & National Council of Teachers of Mathematics. (2002). *Early childhood mathematics: Promoting good beginnings*. Retrieved from http://www.naeyc.org/positionstatements/mathematics

National Council of Teachers of Mathematics. (2006). *Curriculum focal points for prekindergarten through grade 8 mathematics: A quest for coherence.* Reston, VA: Author. Retrieved from http://www.nctm.org/standards/content.aspx?id=270

National Governors Association Center for Best Practice, Council of Chief State School Officers. (2010). Common Core State Standards. National Governors Association Center for Best Practices, Council of Chief State School Officers. Washington, DC: Author. Retrieved from http://www.corestandards.org

National Research Council. (2001). Adding it up: Helping children learn mathematics. In J. Kilpatrick, J. Swafford, & B. Findell (Eds.), *Mathematics Learning Study Committee, Center for Education. Division of Behavioral and Social Sciences and Education.* Washington, DC: The National Academies Press.

National Research Council. (2009). *Mathematics Learning in Early Childhood: Paths Toward Excellence and Equity.* Committee on Early Childhood Mathematics, Christopher T. Cross, Taniesha A. Woods, & Heidi Schweingruber (Eds.), Center for Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Sarama, J., & Clements, D. (2009). *Early childhood mathematics education research: Learning trajectories for young children.* New York, NY: Routledge.

Woleck, K. (2001). Listen to their pictures: An investigation of children's mathematical drawings. In A. A. Cuoco and F. R. Curcio, (Eds.), *The roles of representation in school mathematics* (pp. 215–227). Reston, VA: National Council of Teachers of Mathematics.

#### **IV Scientific Thinking**

A Inquiry Skills and Practices

- 1 Asks questions and begins to solve problems that arise during explorations.
- 2 Uses senses and simple tools to explore solutions to problems.
- 3 Makes meaning from explorations, and generates ideas and solutions based on their own observations of the natural and human-made worlds.
- 4 Communicates experiences, observations, and ideas with others through conversations, representations, and/or behavior.

Brenneman, K., Stevenson-Boyd, J., & Frede, E. C. (2009, March). *Math and science in preschool: Policies and practice.* National Institute of Early Education Research (NIEER) Preschool Policy Brief. Retrieved from http://nieer.org/resources/policybriefs/20.pdf

Bullock, M., & Gelman, R. (1979). Preschool children's assumptions about cause and effect: Temporal ordering. *Child Development*, 50(1), 89–96.

Chouinard, M. M. (2007). Children's questions: A mechanism for cognitive development. *Monographs for the Society for Research in Child Development*, 72(1), 1–129.

*Georgia Early Learning and Development Standards (GELDS)*. (2013). Retrieved from http://www.gelds.decal.ga.gov/Default.aspx

Gopnik, A., Meltzoff, A. N., & Kuhl, P. K. (1999). *The scientist in the crib: Minds, brains, and how children learn.* New York, NY: Harper Collins.

Gopnik, A., Sobel, D. M., Schulz, L., & Glymour, C. (2001). Causal learning mechanisms in very young children: Two-, three-, and four-year-olds infer causal relations from patterns of variation and covariation. *Developmental Psychology*, *37*(5), 620–629.

Goswami, U., & Brown, A. L. (1990). Melting chocolate and melting snowmen: Analogical reasoning and causal relations. *Cognition*, *35*(1), 69–95.

Gotwals, A., & Songer, N. (2006, June–July). *Measuring students' scientific content and inquiry reasoning.* Proceedings of the 7th International Conference of the Learning Sciences (ICLS), International Society of the Learning Sciences, Indiana University, Bloomington, IN.

Klahr, D., & Chen, Z. (2003). Overcoming the positive-capture strategy in young children: Learning about indeterminacy. *Child Development*, 74(5), 1275–1296.

National Association for the Education of Young Children (NAEYC) (2013). *NAEYC Early Childhood Program Standards and Accreditation Criteria*. Retrieved from http://www.naeyc.org/files/academy/file/AllCriteriaDocument.pdf

National Research Council (NRC). (2000). *How people learn: Brain, mind, experience, and school.* Committee on Developments in the Science of Learning. J. D. Bransford, A. L. Brown, & R. R. Cocking (Eds.). Washington, DC: The National Academies Press.

National Research Council (NRC). (2007). *Taking science to school: Learning and teaching science in grades K-8*. Committee on Science Learning, Kindergarten Through Eighth Grade. R. A. Duschl, H. A. Schweingruber, & A. W. Shouse (Eds.). Board on Science Education, Center for Education. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

National Research Council (NRC). (2012). *A framework for K-12 science education: Practices, crosscutting concepts, and core ideas.* Committee on a Conceptual Framework for New K-12 Science Education Standards. Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Acadamies Press.

New York State Early Childhood Advisory Council and the New York State Council on Children and Families. (2012). *Early learning guidelines*. Retrieved from http://ccf.ny.gov/ECAC/ECACResources/ELG.pdf

Pennsylvania Department of Education and Department of Public Welfare. (2009). *Pennsylvania learning standards for early childhood.* Retrieved from http://www.pakeys.org/uploadedContent/Docs/PD/Standards/Pre-Kindergarten%202010.pdf

Solomon, G. E. A., & Johnson, S. C. (2000). Conceptual change in the classroom: Teaching young children to understand biological inheritance. *British Journal of Developmental Psychology*, 18(1), 81–96. doi: 10.1348/026151000165580

### VII Physical Development, Health, and Safety

- A Gross Motor Development
  - 1 Moves with increased balance and control.
  - 2 Coordinates combined movement patterns to perform simple tasks.
- B Fine Motor Development
  - 1 Uses emerging strength and control to perform simple tasks.
  - 2 Uses eye-hand coordination to perform tasks.
  - 3 Shows beginning control of writing, drawing, and art tools.
- C Self-Care, Health, and Safety
  - 1 Performs some self-care tasks independently.
  - 2 Follows basic safety rules with reminders.

American Academy of Pediatrics. (2013). *Developmental milestones: 4 to 5 years old.* Retrieved from http://www.healthychildren.org/English/ages-stages/preschool/Pages/Developmental-Milestones-4-to-5-Year-Olds.aspx

Beery, K. E., & Beery, N. A. (2004). *The Beery-Buktenica Developmental Test of Visual-Motor Integration: Administration, scoring, and teaching manual* (5th ed.). Minneapolis, MN: NCS Pearson.

Berk, L. E. (2008). Child development (8th ed.). Boston, MA: Pearson/Allyn & Bacon.

Carlson, F. M. (2011). *Big body play: Why boisterous, vigorous, and very physical play is essential to children's development and learning.* Washington, DC: National Association for the Education of Young Children.

Illinois State Board of Education. (2010). *Illinois learning standards for physical development and health*. Springfield, IL: Author.

National Association for the Education of Young Children. (2009). *Position statement:* Developmentally appropriate practice in early childhood programs serving children from birth through age 8. Washington, DC: Author.

National Association for Sport and Physical Education. (2009). *Active start: A statement of physical activity guidelines for children birth to age 5* (2nd ed.). Reston, VA: Author. National Center for Health Statistics. Health, United States (2011). *With Special Features on Socioeconomic Status and Health*. Hyattsville, MD: U.S. Department of Health and Human Services.

Pennsylvania Department of Education. (2002). Academic standards for health, safety, and physical education. Harrisburg, PA: Author.

Public Broadcasting System. (2013). *Child development and early child development advice/PBS parents: Child development tracker.* Retrieved from http://www.pbs.org/parents/childdevelopmenttracker/three/physicalhealth.html

Sanders, S. (2006). Physical education in kindergarten. In D, GuUo (Ed,), *K today: Teaching and learning in the kindergarten year* (pp. 127–137). Washington, DC: National Association for the Education of Young Children.

Thelen, E., & Smith L. B. (1998). Dynamic systems theories. In: W. Damon (Ed.), *Handbook of child psychology: Vol. 1. Theoretical models of human development.* (5th ed., pp. 563–634). New York, NY: John Wiley & Sons, Inc.

