

Prekindergarten/Primary PK–3

Subtests in the Following Areas:

**Developmental Knowledge
Language Arts and Reading
Mathematics
Science**

Section 53

Prekindergarten/Primary PK–3

SUBTEST 1: DEVELOPMENTAL KNOWLEDGE

1 Knowledge of child growth, child development, and relationships with families and the community

1. Identify the major effects of genetics, health, nutrition, public policy, environment, and economics on child development.
2. Identify the developmental stages (e.g., social-emotional, cognitive, language, physical) and the milestones for the typically developing child.
3. Identify atypical development (e.g., social-emotional, cognitive, language, physical).
4. Identify and distinguish the influences of substance abuse, physical abuse, and emotional distress on child development.
5. Identify diverse family systems and recognize their influences on children’s early experiences which contribute to individual differences and development and learning.
6. Identify the influence of scientific research on theories of cognitive and social development, the principles of how children learn, and the development and implementation of instructional strategies.
7. Identify and apply strategies to involve families in their child’s development and learning in all phases of school programs.
8. Identify and apply strategies to facilitate family and community partnerships.

2 Knowledge of the profession and foundations of early childhood (PreK–3) education

1. Identify theorists, theories, and developmental domains (e.g., physical, cognitive, social-emotional) in the fields of early childhood education and their implications for the classroom teacher of young children.
2. Identify models of early childhood curriculum (e.g., Montessori, Creative Curriculum).
3. Identify and analyze the impact of federal and state laws on education in the classroom (e.g., English for Speakers of Other Languages, Individuals with Disabilities Education Act).
4. Identify professional organizations, websites, and scholarly journals in the field of early childhood education.
5. Interpret professional standards set by early childhood and elementary educational organizations (e.g., National Association for the Education of Young Children, Association

for Childhood Education International, National Council of Teachers of Mathematics, Southern Early Childhood Association).

6. Analyze the relationships among current educational issues, trends, and legislation and their impact on the field of early childhood education.
7. Analyze and apply ethical behavior and professional responsibilities as they relate to young children, families, colleagues, and the community (e.g., Florida Educator Accomplished Practices, Florida Department of Education Code of Ethics, National Association for the Education of Young Children Code of Ethics).

3 Knowledge of developmentally appropriate practices

1. Identify and apply developmentally appropriate practices that guide effective instruction.
2. Identify the components of effective organization and management, such as classroom rituals, routines, and schedules.
3. Identify ways to organize furniture, equipment, materials, and other resources in an indoor or outdoor environment in order to support early childhood development and curricula.
4. Identify and analyze strategies for short- and long-term planning to set instructional goals in alignment with standards for developing teacher objectives.
5. Identify strategies for designing appropriate objectives and developing, implementing, and assessing lesson plans.
6. Identify and select developmentally and/or age-appropriate instructional materials that enrich and extend active learning.
7. Apply a variety of methods of flexibly grouping children for the purposes of instruction.
8. Identify and apply characteristics of an integrated curriculum.
9. Identify characteristics of play as related to children's social, emotional, and cognitive development.
10. Identify strategies for building and nurturing trusting relationships with students.
11. Analyze and evaluate the use of evidence-based practices to improve student achievement.

4 Knowledge of developmentally appropriate curricula

1. Analyze and select developmentally appropriate curricula that provide for all areas of child development (i.e., physical, emotional, social, linguistic, aesthetic, cognitive).
2. Identify strategies for facilitating the development of literal, interpretive, and critical listening and thinking skills.

3. Determine activities that support the development of fine and gross motor skills.
4. Select and apply strategies, including the use of technology, for presenting instruction and concepts related to health, safety, and nutrition.
5. Select and apply strategies, including the use of technology, for presenting instruction and concepts related to visual arts, music, drama, and dance.
6. Select and apply strategies, including the use of technology, in developmentally appropriate ways to teach reading, mathematics, science, and social studies.
7. Select and apply strategies, including the use of technology, in developmentally appropriate ways to increase receptive and expressive vocabulary.

5 Knowledge of developmentally appropriate intervention strategies and resources available to meet the needs of all students

1. Select and analyze evidence-based instructional strategies to adapt curricula for children with diverse needs.
2. Identify characteristics of children with diverse needs in order to support their learning.
3. Identify and select resources and procedures that support children with diverse needs and their families.
4. Identify characteristics of children at risk for school failure and select appropriate intervention strategies for these children.
5. Identify major trends in educating children with exceptionalities and incorporate such trends in early childhood settings as appropriate.
6. Select and apply appropriate strategies for working with children who are in foster care and children who are migrant, transient, orphaned, or homeless.
7. Identify ways for accessing and appropriately using health information to monitor children's medical needs (e.g., medications for allergies) and/or other health impairments.
8. Identify needs for, and methods of, collaboration with other professionals in order to positively impact student learning.
9. Identify programs, curricula, and activities that address the language needs of children and their families with limited English proficiency.

6 Knowledge of diagnosis, assessment, and evaluation

1. Select and apply developmentally appropriate, reliable, and valid formal and informal screening, progress monitoring, and diagnostic instruments and procedures that measure specific characteristics.

2. Identify procedures for accurately establishing, maintaining, and using formal and informal student records.
3. Interpret formal and informal assessment data to make instructional decisions about the educational needs of children.
4. Identify procedures for appropriately using authentic assessments (e.g., portfolios, observations, journals) to plan instruction that further develops a child's level of learning and interest.
5. Identify procedures and legal requirements that provide for productive family conferences or home visits, regarding the assessment, education, and development of children, in accordance with due process (e.g., IEP, RtI) and confidentiality.
6. Identify methods of observing, facilitating, and extending children's play to practice newly acquired abilities (e.g., through problem solving, imitation, persistence, and creativity).
7. Identify different types of assessments (e.g., norm-referenced, criterion-referenced, diagnostic, curriculum-based) and the purposes of each.
8. Identify and apply appropriate processes for monitoring struggling students (e.g., RtI, tiered interventions) and planning and implementing intervention strategies.

7 Knowledge of child guidance and classroom behavioral management

1. Identify and analyze developmentally appropriate components of a positive and effective classroom behavioral management system.
2. Apply developmentally appropriate positive strategies for guiding children's behavior and responding to challenging behaviors.
3. Identify opportunities for promoting children's positive self-concept and self-esteem, prosocial skills, and social-emotional development through interaction with peers and familiar adults.
4. Select developmentally appropriate problem-solving strategies for conflict resolution, self-regulatory behavior, and social interaction.
5. Select and analyze appropriate strategies for teaching character development to young children.
6. Identify the roles of early childhood professionals in collaboration with other professionals (e.g., social workers, school counselors, community liaisons) in helping children and their families cope with stressors.

Prekindergarten/Primary PK–3

SUBTEST 2: LANGUAGE ARTS AND READING

1 Knowledge of literacy and literacy instruction

1. Identify the content of emergent literacy (e.g., oral language development, phonological awareness, alphabet knowledge, concepts of print, motivation, written language development).
2. Identify common emergent literacy difficulties and apply strategies for prevention and intervention.
3. Apply various approaches for developing emergent and early literacy skills (e.g., oral language and listening, phonological awareness, alphabet knowledge, background knowledge, concepts of print).
4. Identify appropriate emergent and early literacy activities.
5. Select specific instructional methods (e.g., whole group, small group, explicit, systematic) for developing emergent literacy.
6. Identify the components of and techniques for creating a print-rich environment reflecting diverse cultures and the impact of such an environment on classroom instruction.
7. Analyze the structure (e.g., small group, whole group) and components (e.g., vocabulary, phonics) of a balanced literacy program.
8. Apply instructional approaches and strategies for teaching informational literacy skills (e.g., reading labels, signs, newspapers).
9. Identify effective methods and strategies to integrate reading, writing, speaking, listening, viewing, and presenting across the curriculum.
10. Determine effective techniques for motivating students to engage in academic and personal reading (e.g., student interest in texts, student reading goals, student self-selection of texts).

2 Knowledge of fiction and nonfiction genres including reading informational texts (e.g., literary nonfiction, historical, scientific, and technical texts)

1. Select literature (e.g., pattern books, concept books) from a variety of narrative texts that build language skills and concept development.
2. Identify and distinguish the elements of various literary genres and formats of prose and poetry (e.g., multicultural literature, fables, legends, biographies, realistic fiction, fantasy).

3. Analyze and compare literature with common themes written from different viewpoints and cultural perspectives.
4. Identify instructional approaches and apply strategies for developing literary analysis (e.g., story-mapping, plot structure, elements of literary devices).
5. Select appropriate techniques for encouraging students to respond to literature and informational texts in a variety of ways (e.g., retelling, dramatizing, writing).
6. Identify a variety of uses and purposes for multiple representations of information (e.g., maps, timelines, charts, tables, graphs, pictures, print and nonprint media).
7. Identify instructional methods and strategies (e.g., using graphic organizers, summarizing, oral questioning, inferring) for facilitating students' reading comprehension across the curriculum.
8. Identify and appropriately use text structures (e.g., cause and effect, chronological order, compare and contrast) to develop student comprehension.
9. Identify informational text features and their purposes (e.g., index, glossary, heading/subheading, table of contents, bibliography, references).

3 Knowledge of reading foundational skills

1. Identify appropriate stages of word recognition (e.g., pre-alphabetic, partial-alphabetic, full-alphabetic) and cueing strategies (e.g., graphophonic, syntactic, semantic) that effective readers use in the decoding process.
2. Identify the components of reading fluency (i.e., accuracy, automaticity, rate, prosody).
3. Select instructional methods and strategies for increasing vocabulary acquisition and development (e.g., concept maps, morphemic and contextual analysis) across the curriculum.
4. Select effective instructional methods for teaching essential comprehension skills (e.g., main idea, supporting details, author's purpose, inference).
5. Apply instructional strategies (e.g., utilizing graphic organizers, activating background knowledge) for helping students comprehend content area texts.
6. Identify instructional strategies (e.g., making connections, questioning, summarizing) for developing critical thinking skills (e.g., critiquing, analyzing, problem-solving).
7. Select and apply instructional methods for developing reading fluency (e.g., practice with high-frequency words, timed readings, repeated readings).
8. Apply effective reading strategies to comprehend complex literature and informational texts (e.g., stories, drama, poetry, biographies, technical texts).

4 Knowledge of language elements used for effective oral and written communication

1. Distinguish among the developmental stages of writing (e.g., drawing, scribbling, letter-like formations, strings of letters).
2. Identify developmentally appropriate writing strategies for developing concepts of print and conventions, including spelling and punctuation.
3. Determine the stages of the writing process (e.g., prewriting, editing, publishing).
4. Identify and distinguish characteristics of various modes of writing (e.g., narrative, expository, persuasive, descriptive).
5. Select and analyze the appropriate mode of writing for a variety of occasions, purposes and audiences, and use textual support, reader response, and research as needed.
6. Identify developmentally appropriate strategies for enhancing writer's craft (e.g., supporting details, dialogue, transition words).
7. Determine effective strategies for comprehension and collaboration (e.g., following multiple- step directions, following group rules, participating in group discussions).
8. Identify key elements in students' presentations of ideas (e.g., visual and digital components, organization of ideas, clarity of thought).
9. Analyze the increasing complexity of conventions of English (e.g., common prepositions, personal and possessive pronouns, compound and complex sentences).
10. Compare characteristics and uses of formal and informal language (e.g., oral, written).

5 Knowledge of assessments to inform literacy instruction

1. Identify appropriate oral and written methods for assessing individual student progress in reading and writing (e.g., fluency probes, conferencing, rubrics, running records, portfolios).
2. Interpret and analyze data from informal and formal reading assessments using qualitative and quantitative measures (e.g., screening, progress monitoring, diagnostic) to guide differentiated instruction.

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SUBTEST 3: MATHEMATICS

1 Knowledge of effective mathematics instruction

1. Identify and analyze developmentally appropriate strategies for presenting mathematical concepts progressing from concrete to semi-concrete to abstract.
2. Identify and apply related mathematical concepts, computation, problem-solving, and reasoning.
3. Identify and analyze opportunities and strategies to integrate mathematics with other subject areas.
4. Identify mathematical concepts appropriate for the PreK–3 curriculum.
5. Select and apply the appropriate use of available tools, including technology (e.g., interactive white boards, computers) and manipulatives in teaching mathematics.
6. Identify the use of mathematical practices to promote critical thinking (e.g., construct viable arguments, make use of structure, express regularity in repeated reasoning).
7. Select and analyze uses of a variety of assessments to plan instruction.
8. Select and analyze structured experiences for small and large groups of students according to mathematical concepts.
9. Identify and analyze attitudes and dispositions underlying mathematical thinking.

2 Knowledge of algebraic thinking

1. Identify and extend simple number and nonnumeric repeating and growing patterns using words, variables, tables, and graphs.
2. Determine and apply the concepts of equality and inequality in real-world situations (e.g., balancing and comparing quantities).
3. Identify and apply function rules using addition and subtraction (e.g., input-output machines, tables).
4. Identify and analyze appropriate instructional strategies (e.g., draw a picture, make a table, act it out) to facilitate student understanding of problem solving.

3 Knowledge of number concepts and operations in base ten

1. Identify the cardinal number for a set, various ways to count efficiently (e.g., counting by ones, skip counting, counting on, counting backwards, counting collections), and ordinal numbers.
2. Identify pre-number concepts, 1-to-1 correspondence, conservation of numbers, constructing sets to match given criteria, and rote counting.
3. Use knowledge of place value to name, compare, and flexibly represent numbers in base ten (e.g., $22 = 2$ tens and 2 ones, 1 ten and 12 ones, or 22 ones).
4. Use place value (e.g., flexibility of numbers) and properties of operations (i.e., commutative, associative, distributive, identity) to solve problems involving addition and subtraction of multi-digit numbers and multiplication facts through 100.
5. Differentiate between problem-solving strategies that use models, properties of operations, and the inverse relationship of operations.
6. Use area, set, and linear fraction models (e.g., number lines) to represent fractions, including fractions greater than one.
7. Relate the size of the fractional part to the number of equal-sized pieces in the whole.
8. Use models to represent equivalent fractions, including fractions greater than one, and numerical representation of equivalents (e.g., $1/2 = 2/4 = 3/6$, the same amount is shaded in the whole).

4 Knowledge of measurement and data collection and analysis

1. Identify the use of measurable attributes and the appropriate use of metric and customary units to measure and compare length, area, perimeter, and volume.
2. Identify effective instructional activities for estimating, telling, and writing time; calculating elapsed time; and counting money.
3. Select effective methods to organize, represent, and interpret data (e.g., bar graphs, line plots).
4. Solve problems analyzing data sets, drawing conclusions, and making predictions.

5 Knowledge of geometric and spatial concepts

1. Identify and classify two-dimensional and three-dimensional shapes according to defining attributes (e.g., number of sides, length of sides, measure of angles).
2. Identify the composition of a complex figure using basic two-dimensional and three-dimensional shapes (e.g., squares, circles, triangles, spheres, cones, prisms).

3. Analyze and distinguish examples of symmetry and non-symmetry in two dimensions.
4. Identify spatial concepts (e.g., above, below, hidden view, through) and vocabulary (e.g., line, angle, ray, plane) useful for teaching geometry in real-world situations.

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SUBTEST 4: SCIENCE

1 Knowledge of effective science instruction

1. Analyze developmentally appropriate strategies for teaching science practices (e.g., observing, questioning, designing and carrying out investigations, developing and using models, constructing and communicating explanations).
2. Identify strategies and skills for facilitating children’s experiences in ways that support their active inquiry, naturalistic exploration, talk and argument, and conceptual development.
3. Identify and analyze strategies for formal and informal learning experiences to provide science curriculum that promotes children’s natural curiosity about the world (e.g., active hands-on experiences, active engagement in the physical world, student interaction).
4. Identify ways to organize and manage the early childhood classroom for safe, effective science teaching and learning (e.g., procedures, equipment, layout).
5. Identify and select developmentally appropriate formal and informal assessments to evaluate prior knowledge, to guide instruction, and to evaluate the impact of science experiences on student learning.
6. Select and analyze small- and large-group strategies to help students explain the concepts they are learning, provide opportunities to introduce formal science terms, and to clarify scientific concepts and misconceptions.
7. Select and apply safe and effective instructional strategies when using curricular and instructional tools and resources such as physical and conceptual models, scientific equipment, realia, and print and digital representations to support and enhance science instruction.
8. Apply scientifically and professionally responsible decision-making regarding the selection of socially and culturally sensitive science content and activities.

2 Knowledge of the nature of science

1. Identify and apply basic process skills (e.g., observing, inferring, classifying, measuring) and developmentally appropriate science practices (e.g., analyzing and interpreting data, constructing explanations, engaging in argument from evidence).
2. Evaluate and interpret pictorial representations, charts, tables, and graphs of authentic data from scientific investigations to make predictions, construct explanations, and support conclusions.

3. Analyze the dynamic nature of science as a way of understanding the world (e.g., tentativeness, replication, reliance on evidence).
4. Identify and select appropriate tools, including digital technologies, and units of measurement for various science tasks.
5. Evaluate the relationship between claims (e.g., including predictions), evidence (i.e., scientific knowledge, observations) and explanations (i.e., linking claims to evidence, drawing conclusions).
6. Identify and analyze attitudes and dispositions underlying scientific thinking (e.g., curiosity, openness to new ideas, appropriate skepticism, cooperation).
7. Identify and analyze ways in which science is an interdisciplinary process and interconnected to STEM disciplines (i.e., science, technology, engineering, mathematics).
8. Analyze considerations of science technology in society including cultural, ethical, economic, political, and global implications.

3 Knowledge of the earth and space sciences

1. Identify the living and nonliving composition of the Earth's surface and the properties of the nonliving materials that make up Earth's surface (e.g., soil, minerals, rocks, water).
2. Identify the processes that change the surface of the Earth.
3. Analyze the effects of the law of gravity on objects on Earth and in space.
4. Identify and distinguish distant objects seen in the daytime and nighttime sky (e.g., Sun, stars, planets, Moon).
5. Identify and analyze the causes and effects of atmospheric processes (e.g., weather, wind, water cycle).
6. Interpret and predict the direct and indirect effects of the Sun's energy on Earth, including plants, animals, water, land, and air.
7. Identify the components and significance of space research and exploration (e.g., timelines, tools and equipment, benefits and cost to society).
8. Identify and describe repeated patterns in the Sun-Earth-Moon system (e.g., the day-night cycle, phases of the Moon, seasons).
9. Analyze the impact of human activity on renewable and nonrenewable resources and natural events, including preparation for severe weather related events (e.g., hurricanes, tornadoes, flooding).

4 Knowledge of the physical sciences

1. Sort matter by its observable qualitative properties (e.g., shape, color, states, texture, hardness) and quantitative properties (e.g., mass, volume, temperature, weight, density).
2. Categorize matter as an element, compound, or mixture and compare the similarities and differences among them.
3. Identify and differentiate between physical and chemical changes in matter.
4. Identify and compare types, characteristics, and functions of energy.
5. Identify and analyze ways energy is transferred between objects or the surrounding air.
6. Analyze and compare the relationship between forces (e.g., push or pull) and an object's change in position, direction, and/or speed.

5 Knowledge of the life sciences

1. Identify how plants and animals respond to their environment.
2. Identify basic concepts of heredity (e.g., why offspring resemble their parents).
3. Classify plants and animals into major groups according to characteristics (e.g., physical features, behaviors, development).
4. Compare the ways living things meet their basic needs through interaction with and dependence on one another when sharing an environment (e.g., competition, predation, pollination).
5. Identify basic characteristics of living and nonliving things.
6. Identify and describe the basic structures, behaviors, and functions of plants and animals that allow them to carry out their life processes (e.g., grow, reproduce, and survive).
7. Identify and compare the structure and functions of major systems of the human body.
8. Identify and compare the predictable ways plants and animals change as they grow, develop, and age.
9. Identify and compare processes of sexual and asexual reproduction in plants, animals, and microorganisms.
10. Identify the variety of habitats within ecosystems and analyze how they meet the needs of the organisms that live there.