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TExES | Texas Examinations of Educator Standards

Preparation Manual

191 Generalist EC–6

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Chapter 1

Introduction to the Generalist EC–6 Test and Suggestions for Using this Test Preparation Manual

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OVERVIEW

The State Board for Educator Certification (SBEC) has approved Texas educator standards that delineate what the beginning educator should know and be able to do. These standards, which are based on the state-required curriculum for students—the Texas Essential Knowledge and Skills (TEKS)—form the basis for the Texas Examinations of Educator Standards® (TExES®) program. This initiative, directed by Texas Education Agency (TEA), will affect all areas of Texas education—from the more than 100 approved Texas Educator Preparation Programs (EPPs) to the more than 7,000 Texas school campuses. This standards-based system reflects TEA's commitment to help align Texas education from kindergarten through college. TEA's role in this K–16 initiative will ensure that newly certified Texas educators have the essential knowledge and skills to teach the TEKS to the state's public school students.

This manual is designed to help examinees prepare for the TExES test in this field. Its purpose is to familiarize examinees with the competencies to be tested, test question formats, and pertinent study resources. EPP staff may also find this information useful as they help examinees prepare for careers as Texas educators.

KEY FEATURES OF THE MANUAL

- *List of competencies that will be tested*
- *Strategies for answering multiple-choice questions*
- *Sample test questions and answer key*

If you have any questions after reading this preparation manual or if you would like additional information about the TExES tests or the educator standards, please visit the SBEC website at **www.sbec.state.tx.us**.

USING THE TEST FRAMEWORK

The Texas Examinations of Educator Standards (TExES) tests measure the content knowledge required of an entry-level educator in a particular field in Texas public schools. This manual is designed to guide your preparation by helping you become familiar with the material to be covered on the test you are planning to take, identify areas where you feel you may be weak, and increase your knowledge in those areas by helping you design a study plan.

When preparing for this test, you should focus on the competencies and descriptive statements, which delineate the content that is eligible for testing. A portion of the content is represented in the sample questions that are included in this manual. These test questions represent only a sampling of questions. Thus, your test preparation should focus on the competencies and descriptive statements and not simply on the sample questions.

ORGANIZATION OF THE TExES TEST FRAMEWORK

The test framework is based on the educator standards for this field.

The content covered by this test is organized into broad areas of content called domains. Each domain covers one or more of the educator standards for this field. Within each domain, the content is further defined by a set of competencies. Each competency is composed of two major parts:

1. the **competency statement**, which broadly defines what an entry-level educator in this field in Texas public schools should know and be able to do, and
2. the **descriptive statements**, which describe in greater detail the knowledge and skills eligible for testing.

The educator standards being assessed within each domain are listed for reference at the beginning of the test framework, which begins on page 10. These are followed by a complete set of the framework's competencies and descriptive statements.

An example of a competency and its accompanying descriptive statements is provided below.

SAMPLE COMPETENCY

Generalist EC–6

COMPETENCY 001 (ORAL LANGUAGE)

THE TEACHER UNDERSTANDS THE IMPORTANCE OF ORAL LANGUAGE, KNOWS THE DEVELOPMENTAL PROCESSES OF ORAL LANGUAGE, AND PROVIDES THE STUDENTS WITH VARIED OPPORTUNITIES TO DEVELOP LISTENING AND SPEAKING SKILLS.

SAMPLE DESCRIPTIVE STATEMENTS

The beginning teacher:

A. Knows basic linguistic concepts (e.g., phonemes, segmentation) and the developmental stages in the acquisition of oral language—including phonology, semantics, syntax, and pragmatics—and recognizes that individual variations occur within and across languages.

B. Plans and implements systematic oral language instruction based on informal and formal assessment of all students, including English-language learners, oral language development and addresses students' individual needs, strengths, and interests.

C. Recognizes when speech or language delays or differences warrant in-depth evaluations and additional help or interventions.

D. Designs a variety of one-on-one and group activities (e.g., meaningful and purposeful conversations, dramatic play, language play, telling stories, singing songs, creating rhymes, playing games, having discussions, questioning, sharing information) to build on students' current oral language skills.

E. Selects and uses instructional materials and strategies that promote students' oral language development; that respond to students' individual needs, strengths, and interests; that reflect cultural diversity; and that build on students' cultural, linguistic, and home backgrounds to enhance their oral language development.

F. Understands relationships between oral language and literacy development and provides instruction that interrelates oral and written language to promote students' reading and writing proficiencies.

G. Selects and uses instructional strategies, materials, activities, and models to strengthen students' oral vocabulary and narrative skills in spoken language and teaches students to connect spoken and printed language.

H. Selects and uses instructional strategies, materials, activities, and models to teach students skills for speaking to various audiences for various purposes and for adapting spoken language for various audiences, purposes, and occasions.

I. Selects and uses instructional strategies, materials, activities, and models to teach students listening skills for various purposes (e.g., critical listening to evaluate a speaker's message, listening to enjoy and appreciate spoken language) and provides students with opportunities to engage in active, purposeful listening in a variety of contexts.

J. Selects and uses instructional strategies, materials, activities, and models to teach students to evaluate the content and effectiveness of their own spoken messages and the messages of others.

K. Selects and uses appropriate technologies to develop students' oral communication skills.

STUDYING FOR THE TExES TEST

The following steps may be helpful in preparing for the TExES test.

1. Identify the information the test will cover by reading through the test competencies (see Chapter 3). Within each domain of this TExES test, each competency will receive approximately equal coverage.
2. Read each competency with its descriptive statements in order to get a more specific idea of the knowledge you will be required to demonstrate on the test. You may wish to use this review of the competencies to set priorities for your study time.
3. Review the "Preparation Resources" section of this manual for possible resources to consult. Also, compile key materials from your preparation coursework that are aligned with the competencies.
4. Study this manual for approaches to taking the TExES test.
5. When using resources, concentrate on the key ideas and important concepts that are discussed in the competencies and descriptive statements.
6. Use the study plan document (Appendix A of this guide) to help you plan your study.

NOTE: This preparation manual is the only TExES test study material endorsed by Texas Education Agency (TEA) for this field. Other preparation materials may not accurately reflect the content of the test or the policies and procedures of the TExES program.

Chapter 2

Background Information on the TExES Testing Program

THE TExES TESTS FOR TEXAS TEACHERS

As required by the Texas Education Code §21.048, successful performance on educator certification examinations is required for the issuance of a Texas educator certificate. Each TExES test is a criterion-referenced examination designed to measure the knowledge and skills delineated in the corresponding TExES test framework. Each test framework is based on standards that were developed by Texas educators and other education stakeholders.

Each TExES test is designed to measure the requisite knowledge and skills that an entry-level educator in this field in Texas public schools must possess. The tests include both individual (stand-alone) test questions and questions that are arranged in clustered sets based on real-world situations faced by educators.

DEVELOPMENT OF THE NEW TExES TESTS

Committees of Texas educators and interested citizens guide the development of the new TExES tests by participating in each stage of the test development process. These working committees are composed of Texas educators from public and charter schools, faculty from EPPs, education service center staff, representatives from professional educator organizations, content experts, and members of the business community. The committees are balanced in terms of position, affiliation, years of experience, ethnicity, gender, and geographical location. The committee membership is rotated during the development process so that numerous Texas stakeholders may be actively involved. The steps in the process to develop the TExES tests are described below.

1. **Develop Standards.** Committees are established to recommend what the beginning educator should know and be able to do. Using the Texas Essential Knowledge and Skills (TEKS) as the focal point, draft standards are prepared to define the knowledge and skills required of the beginning educator.
2. **Review Standards.** Committees review and revise the draft standards. The revised draft standards are then placed on the State Board for Educator Certification (SBEC) website for public review and comment. These comments are used to prepare a final draft of the standards that will be presented to the SBEC Board for discussion, the State Board of Education (SBOE) for review and comment, and the SBEC Board for approval. Standards not based specifically on the TEKS, such as those for librarians and counselors, are proposed as rule by the SBEC Board; sent to the SBOE for its 90-day review; and, if not rejected by the SBOE, adopted by the SBEC Board.
3. **Develop Test Frameworks.** Committees review and revise draft test frameworks that are based on the standards. These frameworks outline the specific competencies to be measured on the new TExES tests. The TExES competencies represent the critical components of the standards that can be measured with either a paper-based or a computer-administered examination, as appropriate. Draft frameworks are not finalized until after the standards are approved and the job analysis/content validation survey (see #4) is complete.

4. **Conduct Job Analysis/Content Validation Surveys.** A representative sample of Texas educators who practice in or prepare individuals for each of the fields for which an educator certificate has been proposed are surveyed to determine the relative job importance of each competency outlined in the test framework for that content area. Frameworks are revised as needed following an analysis of the survey responses.
5. **Develop and Review New Test Questions.** The test contractor develops draft questions that are designed to measure the competencies described in the test framework. Committees review the newly developed test questions that have been written to reflect the competencies in the new test frameworks. Committee members scrutinize the draft questions for appropriateness of content and difficulty; clarity; match to the competencies; and potential ethnic, gender, and regional bias.
6. **Conduct Pilot Test of New Test Questions.** The newly developed test questions that have been deemed acceptable by the question review committees are then administered to an appropriate sample of candidates for certification.
7. **Review Pilot Test Data.** Pilot test results are reviewed to ensure that the test questions are valid, reliable, and free from bias.
8. **Administer TExES Tests.** New TExES tests are constructed to reflect the competencies, and the tests are administered to candidates for certification.
9. **Set Passing Standard.** A Standard Setting Committee convenes to review performance data from the initial administration of each new TExES test and to recommend a final passing standard for that test. The SBEC Board considers this recommendation as it establishes a passing score on the test.

TAKING THE TExES TESTS AND RECEIVING SCORES

Please refer to the current TExES *Registration Bulletin* or the ETS TExES website at **www.texes.ets.org** for information on test dates, test centers, fees, registration procedures, and program policies.

Your score report will be available to you in your testing account on the ETS TExES online registration system by 5:00 p.m. Central time on the score reporting date indicated in the *Registration Bulletin*. The report will indicate whether you have passed the test and will include:

- A total test scaled score. Scaled scores are reported to allow for the comparison of scores on the same content-area test taken on different test administration dates. The total scaled score is not the percentage of questions answered correctly and is not determined by averaging the number of questions answered correctly in each domain.
  - For all TExES tests, the score scale is 100–300 with a scaled score of 240 as the minimum passing score. This score represents the minimum level of competency required to be an entry-level educator in this field in Texas public schools.
- Your performance in the major content domains of the test and in the specific content competencies of the test.
  - This information may be useful in identifying strengths and weaknesses in your content preparation and can be used for further study or for preparing to retake the test. However, it is important to use caution when interpreting scores reported by domain and competency as these scores are typically based on a smaller number of items than the total score and therefore may not be as reliable as the total score.
- A link to information that will help you understand the score scale and interpret your results.

A score report will not be available to you if you are absent or choose to cancel your score.

For more information about scores or to access scores online, go to **www.texes.ets.org**.

EDUCATOR STANDARDS

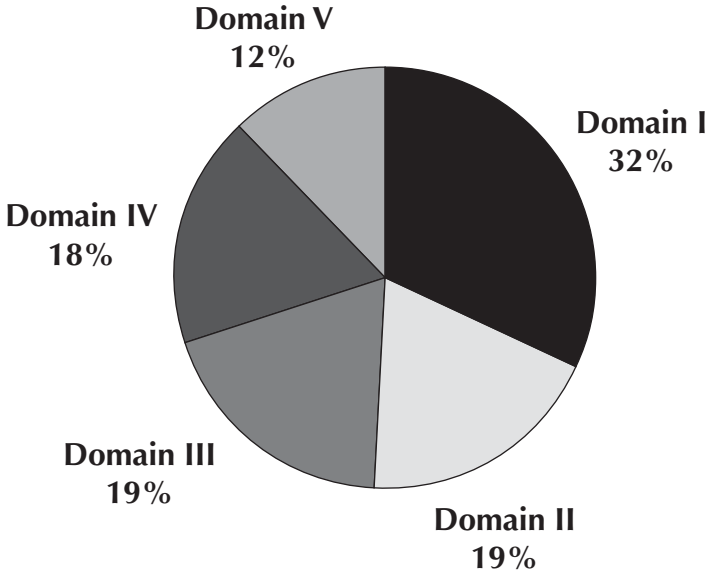
Complete, approved educator standards are posted on the SBEC website at **www.sbec.state.tx.us**.

Chapter 3

Study Topics

TEST FRAMEWORK FOR FIELD 191: GENERALIST EC–6

THE DOMAINS



- **Domain I: English Language Arts and Reading**
  Standards Assessed: English Language Arts and Reading EC–6 Standards I–XII

- **Domain II: Mathematics**
  Standards Assessed: Mathematics I–IX

- **Domain III: Social Studies**
  Standards Assessed: Social Studies I–X

- **Domain IV: Science**
  Standards Assessed: Science I–XI

- **Domain V: Fine Arts, Health, and Physical Education**
  Standards Assessed: Art I–V; Music I–X; Health I–IV; Physical Education I–X

TOTAL TEST BREAKDOWN

- 140 Multiple-Choice Questions (125 Scorable Questions*)

*Your final scaled score will be based only on scorable questions.

THE STANDARDS

DOMAIN I—ENGLISH LANGUAGE ARTS AND READING (approximately 32% of the test)

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD I:

Oral Language: Teachers of young students understand the importance of oral language, know the developmental processes of oral language, and provide a variety of instructional opportunities for young students to develop listening and speaking skills.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD II:

Phonological and Phonemic Awareness: Teachers of young students understand the components of phonological and phonemic awareness and utilize a variety of approaches to help young students develop this awareness and its relationship to written language.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD III:

Alphabetic Principle: Teachers of young students understand the importance of the alphabetic principle to reading English, know the elements of the alphabetic principle, and provide instruction that helps students understand that printed words consist of graphic representations that relate to the sounds of spoken language in conventional and intentional ways.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD IV:

Literacy Development and Practice: Teachers of young students understand that literacy develops over time and progresses from emergent to proficient stages. Teachers use a variety of contexts to support the development of young students' literacy.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD V:

Word Analysis and Decoding: Teachers understand the importance of word analysis and decoding to reading and provide many opportunities for students to improve word analysis and decoding abilities.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD VI:

Reading Fluency: Teachers understand the importance of fluency to reading comprehension and provide many opportunities for students to improve reading fluency.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD VII:

Reading Comprehension: Teachers understand the importance of reading for understanding, know the components of comprehension, and teach young students strategies for improving comprehension.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD VIII:

Development of Written Communication: Teachers understand that writing to communicate is a developmental process and provide instruction that helps young students develop competence in written communication.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD IX:

Writing Conventions: Teachers understand how young students use writing conventions and how to help students develop those conventions.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD X:

Assessment and Instruction of Developing Literacy: Teachers understand the basic principles of assessment and use a variety of literacy assessment practices to plan and implement literacy instruction for young students.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD XI:

Research and Inquiry Skills: Teachers understand the importance of study and inquiry skills as tools for learning and promote students' development in applying study and inquiry skills.

ENGLISH LANGUAGE ARTS AND READING EC–6 STANDARD XII:

Viewing and Representing: Teachers understand how to interpret, analyze, evaluate, and produce.

DOMAIN II—MATHEMATICS (approximately 19% of the test)

MATHEMATICS STANDARD I:

Number Concepts: The mathematics teacher understands and uses numbers, number systems and their structure, operations and algorithms, quantitative reasoning, and technology appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in order to prepare students to use mathematics.

MATHEMATICS STANDARD II:

Patterns and Algebra: The mathematics teacher understands and uses patterns, relations, functions, algebraic reasoning, analysis, and technology appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in order to prepare students to use mathematics.

MATHEMATICS STANDARD III:

Geometry and Measurement: The mathematics teacher understands and uses geometry, spatial reasoning, measurement concepts and principles, and technology appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in order to prepare students to use mathematics.

MATHEMATICS STANDARD IV:

Probability and Statistics: The mathematics teacher understands and uses probability and statistics, their applications, and technology appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in order to prepare students to use mathematics.

MATHEMATICS STANDARD V:

Mathematical Processes: The mathematics teacher understands and uses mathematical processes to reason mathematically, to solve mathematical problems, to make mathematical connections within and outside of mathematics, and to communicate mathematically.

MATHEMATICS STANDARD VI:

Mathematical Perspectives: The mathematics teacher understands the historical development of mathematical ideas, the interrelationship between society and mathematics, the structure of mathematics, and the evolving nature of mathematics and mathematical knowledge.

MATHEMATICS STANDARD VII:

Mathematical Learning and Instruction: The mathematics teacher understands how children learn and develop mathematical skills, procedures, and concepts, knows typical errors students make, and uses this knowledge to plan, organize, and implement instruction; to meet curriculum goals; and to teach all students to understand and use mathematics.

MATHEMATICS STANDARD VIII:

Mathematical Assessment: The mathematics teacher understands assessment and uses a variety of formal and informal assessment techniques appropriate to the learner on an ongoing basis to monitor and guide instruction and to evaluate and report student progress.

MATHEMATICS STANDARD IX:

Professional Development: The mathematics teacher understands mathematics teaching as a profession, knows the value and rewards of being a reflective practitioner, and realizes the importance of making a lifelong commitment to professional growth and development.

DOMAIN III—SOCIAL STUDIES (approximately 19% of the test)

SOCIAL STUDIES STANDARD I:

The social studies teacher has a comprehensive knowledge of the social sciences and recognizes the value of the social sciences.

SOCIAL STUDIES STANDARD II:

The social studies teacher effectively integrates the various social science disciplines.

SOCIAL STUDIES STANDARD III:

The social studies teacher uses knowledge and skills of social studies, as defined by the Texas Essential Knowledge and Skills (TEKS), to plan and implement effective curriculum, instruction, assessment, and evaluation.

SOCIAL STUDIES STANDARD IV:

History: The social studies teacher applies knowledge of significant historical events and developments, as well as of multiple historical interpretations and ideas, in order to facilitate student understanding of relationships between the past, the present, and the future.

SOCIAL STUDIES STANDARD V:

Geography: The social studies teacher applies knowledge of people, places, and environments to facilitate students' understanding of geographic relationships in Texas, the United States, and the world.

SOCIAL STUDIES STANDARD VI:

Economics: The social studies teacher knows how people organize economic systems to produce, distribute, and consume goods and services, and uses this knowledge to enable students to understand economic systems and make informed economic decisions.

SOCIAL STUDIES STANDARD VII:

Government: The social studies teacher knows how governments and structures of power function, provide order, and allocate resources, and uses this knowledge to facilitate student understanding of how individuals and groups achieve their goals through political systems.

SOCIAL STUDIES STANDARD VIII:

Citizenship: The social studies teacher understands citizenship in the United States and other societies, and uses this knowledge to prepare students to participate in our society through an understanding of democratic principles and citizenship practices.

SOCIAL STUDIES STANDARD IX:

Culture: The social studies teacher understands cultures and how they develop and adapt, and uses this knowledge to enable students to appreciate and respect cultural diversity in Texas, the United States, and the world.

SOCIAL STUDIES STANDARD X:

Science, Technology, and Society: The social studies teacher understands developments in science and technology, and uses this knowledge to facilitate student understanding of the social and environmental consequences of scientific discovery and technological innovation.

DOMAIN IV—SCIENCE (approximately 18% of the test)

SCIENCE STANDARD I:

The science teacher manages classroom, field, and laboratory activities to ensure the safety of all students and the ethical care and treatment of organisms and specimens.

SCIENCE STANDARD II:

The science teacher understands the correct use of tools, materials, equipment, and technologies.

SCIENCE STANDARD III:

The science teacher understands the process of scientific inquiry and its role in science instruction.

SCIENCE STANDARD IV:
The science teacher has theoretical and practical knowledge about teaching science and about how students learn science.

SCIENCE STANDARD V:
The science teacher knows the varied and appropriate assessments and assessment practices to monitor science learning.

SCIENCE STANDARD VI:
The science teacher understands the history and nature of science.

SCIENCE STANDARD VII:
The science teacher understands how science affects the daily lives of students and how science interacts with and influences personal and societal decisions.

SCIENCE STANDARD VIII:
The science teacher knows and understands the science content appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in physical science.

SCIENCE STANDARD IX:
The science teacher knows and understands the science content appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in life science.

SCIENCE STANDARD X:
The science teacher knows and understands the science content appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) in Earth and Space science.

SCIENCE STANDARD XI:
The science teacher knows unifying concepts and processes that are common to all sciences.

DOMAIN V—FINE ARTS, HEALTH, AND PHYSICAL EDUCATION (approximately 12% of the test)

ART STANDARD I:
The art teacher understands how ideas for creating art are developed and organized from the perception of self, others, and natural and human-made environments.

ART STANDARD II:
The art teacher understands the skills and techniques needed for personal and creative expression through the creation of original works of art in a wide variety of media and helps students develop those skills and techniques.

ART STANDARD III:
The art teacher understands and promotes students' appreciation of art histories and diverse cultures.

ART STANDARD IV:
The art teacher understands and conveys the skills necessary for analyzing, interpreting, and evaluating works of art and is able to help students make informed judgments about personal artworks and those of others.

ART STANDARD V:
The art teacher understands how children develop cognitively and artistically and knows how to implement effective, age-appropriate art instruction and assessment.

MUSIC STANDARD I:
The music teacher has a comprehensive visual and aural knowledge of musical perception and performance.

MUSIC STANDARD II:
The music teacher sings and plays a musical instrument.

MUSIC STANDARD III:
The music teacher has a comprehensive knowledge of music notation.

MUSIC STANDARD IV:
The music teacher creates and arranges music.

MUSIC STANDARD V:
The music teacher has a comprehensive knowledge of music history and the relationship of music to history, society, and culture.

MUSIC STANDARD VI:
The music teacher applies a comprehensive knowledge of music to evaluate musical compositions, performances, and experiences.

MUSIC STANDARD VII:
The music teacher understands how to plan and implement effective music instruction and provides students with learning experiences that enhance their musical knowledge, skills, and appreciation.

MUSIC STANDARD VIII:
The music teacher understands and applies appropriate management and discipline strategies for the music class.

MUSIC STANDARD IX:
The music teacher understands student assessment and uses assessment results to design instruction and promote student progress.

MUSIC STANDARD X:
The music teacher understands professional responsibilities and interactions relevant to music instruction and the school music program.

HEALTH STANDARD I:
The health teacher applies knowledge of both the relationship between health and behavior and the factors influencing health and health behavior.

HEALTH STANDARD II:
The health teacher communicates concepts and purposes of health education.

HEALTH STANDARD III:
The health teacher plans and implements effective school health instruction and integrates health instruction with other content areas.

HEALTH STANDARD IV:
The health teacher evaluates the effects of school health instruction.

PHYSICAL EDUCATION STANDARD I:
The physical education teacher demonstrates competency in a variety of movement skills and helps students develop these skills.

PHYSICAL EDUCATION STANDARD II:
The physical education teacher understands principles and benefits of a healthy, physically active lifestyle and motivates students to participate in activities that promote this lifestyle.

PHYSICAL EDUCATION STANDARD III:
The physical education teacher uses knowledge of individual and group motivation and behavior to create and manage a safe, productive learning environment and promotes students' self-management, self-motivation, and social skills through participation in physical activities.

PHYSICAL EDUCATION STANDARD IV:
The physical education teacher uses knowledge of how students learn and develop to provide opportunities that support students' physical, cognitive, social, and emotional development.

PHYSICAL EDUCATION STANDARD V:
The physical education teacher provides equitable and appropriate instruction for all students in a diverse society.

PHYSICAL EDUCATION STANDARD VI:
The physical education teacher uses effective, developmentally appropriate instructional strategies and communication techniques to prepare physically educated individuals.

PHYSICAL EDUCATION STANDARD VII:
The physical education teacher understands and uses formal and informal assessment to promote students' physical, cognitive, social, and emotional development in physical education contexts.

PHYSICAL EDUCATION STANDARD VIII:
The physical education teacher is a reflective practitioner who evaluates the effects of his/her actions on others (e.g., students, parents/caregivers, other professionals in the learning environment) and seeks opportunities to grow professionally.

PHYSICAL EDUCATION STANDARD IX:
The physical education teacher collaborates with colleagues, parents/caregivers, and community agencies to support students' growth and well-being.

PHYSICAL EDUCATION STANDARD X:
The physical education teacher understands the legal issues and responsibilities of physical education teachers in relation to supervision, planning and instruction, matching participants, safety, first aid, and risk management.

COMPETENCIES

DOMAIN I—ENGLISH LANGUAGE ARTS AND READING

COMPETENCY 001 (ORAL LANGUAGE)

THE TEACHER UNDERSTANDS THE IMPORTANCE OF ORAL LANGUAGE, KNOWS THE DEVELOPMENTAL PROCESSES OF ORAL LANGUAGE, AND PROVIDES THE STUDENTS WITH VARIED OPPORTUNITIES TO DEVELOP LISTENING AND SPEAKING SKILLS.

The beginning teacher:

A. Knows basic linguistic concepts (e.g., phonemes, segmentation) and the developmental stages in the acquisition of oral language—including phonology, semantics, syntax, and pragmatics—and recognizes that individual variations occur within and across languages.

B. Plans and implements systematic oral language instruction based on informal and formal assessment of all students, including English-language learners, oral language development and addresses students' individual needs, strengths, and interests.

C. Recognizes when speech or language delays or differences warrant in-depth evaluations and additional help or interventions.

D. Designs a variety of one-on-one and group activities (e.g., meaningful and purposeful conversations, dramatic play, language play, telling stories, singing songs, creating rhymes, playing games, having discussions, questioning, sharing information) to build on students' current oral language skills.

E. Selects and uses instructional materials and strategies that promote students' oral language development; that respond to students' individual needs, strengths, and interests; that reflect cultural diversity; and that build on students' cultural, linguistic, and home backgrounds to enhance their oral language development.

F. Understands relationships between oral language and literacy development and provides instruction that interrelates oral and written language to promote students' reading and writing proficiencies.

G. Selects and uses instructional strategies, materials, activities, and models to strengthen students' oral vocabulary and narrative skills in spoken language and teaches students to connect spoken and printed language.

H. Selects and uses instructional strategies, materials, activities, and models to teach students skills for speaking to various audiences for various purposes and for adapting spoken language for various audiences, purposes, and occasions.

I. Selects and uses instructional strategies, materials, activities, and models to teach students listening skills for various purposes (e.g., critical listening to evaluate a speaker's message, listening to enjoy and appreciate spoken language) and provides students with opportunities to engage in active, purposeful listening in a variety of contexts.

J. Selects and uses instructional strategies, materials, activities, and models to teach students to evaluate the content and effectiveness of their own spoken messages and the messages of others.

K. Selects and uses appropriate technologies to develop students' oral communication skills.

COMPETENCY 002 (PHONOLOGICAL AND PHONEMIC AWARENESS)

THE TEACHER UNDERSTANDS PHONOLOGICAL AND PHONEMIC AWARENESS AND EMPLOYS A VARIETY OF APPROACHES TO HELP STUDENTS DEVELOP PHONOLOGICAL AND PHONEMIC AWARENESS.

The beginning teacher:

A. Understands the significance of phonological and phonemic awareness for reading, is familiar with typical patterns in the development of phonological and phonemic awareness, and recognizes that individual variations occur.

B. Understands differences in students' development of phonological and phonemic awareness and adjusts instruction to meet the needs of individual students, including English-language learners.

C. Plans, implements, and adjusts instruction based on the continuous use of formal and informal assessments of individual students' phonological development.

D. Uses a variety of instructional approaches and materials (e.g., language games, informal interactions, direct instruction) to promote students' phonological and phonemic awareness.

E. Understands how to foster collaboration with families and with other professionals to promote all students' phonological and phonemic awareness both at school and at home.

COMPETENCY 003 (ALPHABETIC PRINCIPLE)

THE TEACHER UNDERSTANDS THE IMPORTANCE OF THE ALPHABETIC PRINCIPLE FOR READING ENGLISH AND PROVIDES INSTRUCTION THAT HELPS STUDENTS UNDERSTAND THE RELATIONSHIP BETWEEN SPOKEN LANGUAGE AND PRINTED WORDS.

The beginning teacher:

A. Understands the elements of the alphabetic principle (e.g., letter names, graphophonemic knowledge, the relationship of the letters in printed words to spoken language) and typical patterns of students' alphabetic skills development, and recognizes that individual variations occur.

B. Understands that not all written languages are alphabetic; that many alphabetic languages are more phonetically regular than English; and knows the significance of that for students' literacy development in English.

C. Selects and uses a variety of instructional materials and strategies, including multisensory techniques, to promote students' understanding of the elements of the alphabetic principle and the relationship between sounds and letters.

D. Uses formal and informal assessments to analyze individual students' alphabetic skills, monitor learning, and plan instruction.

E. Understands how to foster collaboration with families and with other professionals to promote all students' development of alphabetic knowledge.

COMPETENCY 004 (LITERACY DEVELOPMENT)

THE TEACHER UNDERSTANDS THAT LITERACY DEVELOPS OVER TIME, PROGRESSING FROM EMERGENT TO PROFICIENT STAGES, AND USES A VARIETY OF APPROACHES TO SUPPORT THE DEVELOPMENT OF STUDENTS' LITERACY.

The beginning teacher:

A. Understands and promotes students' development of literary response and analysis, including teaching students the elements of literary analysis (e.g., story elements, features of different literary genres) and providing students with opportunities to apply comprehension skills to literature.

B. Understands that the developing reader has a growing awareness of print in the environment, the sounds in spoken words, and the uses of print.

C. Selects and uses instructional strategies, materials, and activities to assist students in distinguishing letter forms from number forms and text from pictures.

D. Understands that literacy development occurs in multiple contexts through reading, writing, and the use of oral language.

E. Selects and uses instructional strategies, materials, and activities that focus on functions of print and concepts about print, including concepts involving book handling, parts of a book, orientation, directionality, and the relationships between written and spoken words.

F. Demonstrates familiarity with literature and provides multiple opportunities for students to listen to, respond to, and independently read literature in various genres and to interact with others about literature.

G. Selects and uses appropriate instructional strategies to inform students about authors and authors' purposes for writing.

H. Selects and uses appropriate technology to teach students strategies for selecting their own books for independent reading.

I. Understands how to foster collaboration with families and with other professionals to promote all students' literacy.

COMPETENCY 005 (WORD ANALYSIS AND IDENTIFICATION SKILLS)

THE TEACHER UNDERSTANDS THE IMPORTANCE OF WORD IDENTIFICATION SKILLS (INCLUDING DECODING, BLENDING, STRUCTURAL ANALYSIS, SIGHT WORD VOCABULARY, AND CONTEXTUAL ANALYSIS) AND PROVIDES MANY OPPORTUNITIES FOR STUDENTS TO PRACTICE AND IMPROVE WORD IDENTIFICATION SKILLS.

The beginning teacher:

A. Understands that many students develop word analysis and decoding skills in a predictable sequence but that individual variations may occur.

B. Understands the importance of word recognition skills (e.g., decoding, blending, structural analysis, sight word vocabulary, contextual analysis) for reading comprehension and knows a variety of strategies for helping students develop and apply word analysis skills.

C. Teaches the analysis of phonetically regular words in a simple-to-complex progression (i.e., phonemes, blending onsets and rimes, short vowels, consonant blends, other common vowel and consonant patterns, syllables).

D. Selects and uses instructional strategies, materials, activities, and models to teach students to recognize high-frequency words, to promote students' ability to decode increasingly complex words, and to enhance word identification skills of students reading at varying levels.

E. Knows strategies for decoding increasingly complex words, including the alphabetic principle, vowel-sound combinations, structural cues (e.g., prefixes, suffixes, roots), and syllables and for using syntax and semantics to support word identification and confirm word meaning.

F. Understands the value of using dictionaries, glossaries, and other sources to determine the meanings, pronunciations, and derivations of unfamiliar words and teaches students to use those sources.

G. Understands how to foster collaboration with families and with other professionals to promote all students' word analysis and decoding skills.

COMPETENCY 006 (READING FLUENCY)

THE TEACHER UNDERSTANDS THE IMPORTANCE OF FLUENCY FOR READING COMPREHENSION AND PROVIDES MANY OPPORTUNITIES FOR STUDENTS TO IMPROVE THEIR READING FLUENCY.

The beginning teacher:

A. Understands that fluency involves rate, accuracy, and intonation and knows the norms for reading fluency that have been established by the Texas Essential Knowledge and Skills (TEKS) for various age and grade levels.

B. Understands the connection of word identification skills and reading fluency to reading comprehension.

C. Understands differences in students' development of word identification skills and reading fluency and knows instructional practices for meeting students' individual needs in these areas.

D. Selects and uses instructional strategies, materials, and activities to develop and improve fluency (e.g., reading independent-level materials, reading orally from familiar texts, repeated reading, partner reading, silent reading for increasingly longer periods, self-correction).

E. Provides students with opportunities to engage in silent reading and extended reading of a wide range of materials, including expository texts and various literary genres.

F. Uses strategies to encourage reading for pleasure and lifelong learning.

G. Knows how to teach students strategies for selecting their own books for independent reading.

H. Understands how to foster collaboration with families and with other professionals to promote all students' reading fluency.

COMPETENCY 007 (READING COMPREHENSION AND APPLICATIONS)

THE TEACHER UNDERSTANDS THE IMPORTANCE OF READING FOR UNDERSTANDING, KNOWS THE COMPONENTS AND PROCESSES OF READING COMPREHENSION, AND TEACHES STUDENTS STRATEGIES FOR IMPROVING THEIR COMPREHENSION, INCLUDING USING A VARIETY OF TEXTS AND CONTEXTS.

The beginning teacher:

A. Understands reading comprehension as an active process of constructing meaning.

B. Knows how to provide instruction to help students increase their reading vocabulary.

C. Understands factors affecting students' reading comprehension (e.g., oral language development, word analysis skills, prior knowledge, language background, previous reading experiences, fluency, vocabulary development, ability to monitor understanding, characteristics of specific texts).

D. Understands levels of reading comprehension and knows how to model and teach skills for literal comprehension (e.g., identifying stated main idea, recalling details), inferential comprehension (e.g., inferring cause-and-effect relationships, making predictions), and evaluative comprehension (e.g., analyzing character development and use of language, detecting faulty reasoning).

E. Provides instruction in comprehension skills that support students' transition from "learning to read" to "reading to learn" (e.g., recognizing different types of texts, understanding how a text is organized, using textual features such as headings and glossaries, appreciating the different purposes for reading).

F. Uses various instructional strategies to enhance students' reading comprehension (e.g., by linking text content to students' lives and prior knowledge, connecting related ideas across different texts, engaging students in guided and independent reading, guiding students to generate questions and apply knowledge of text topics).

G. Knows and teaches strategies that facilitate comprehension of different types of text before, during, and after reading (e.g., previewing, making predictions, questioning, self-monitoring, rereading, mapping, using reading journals, discussing texts).

H. Understands metacognitive skills, including self-evaluation and self-monitoring skills, and teaches students to use those skills to enhance their own reading comprehension.

I. Knows how to provide students with direct, explicit instruction in the use of strategies to improve their reading comprehension (e.g., previewing, self-monitoring, visualizing, re-telling).

J. Selects and uses instructional strategies, materials, and activities to guide students' understanding of their own culture and the cultures of others through reading.

K. Teaches elements of literary analysis, such as story elements and features of various literary genres.

L. Understands the continuum of reading comprehension skills in the statewide curriculum and grade-level expectations for those skills.

M. Knows the difference between guided and independent practice in reading and provides students with frequent opportunities for both.

N. Understands how to foster collaboration with families and with other professionals to promote all students' reading comprehension.

COMPETENCY 008 (READING, INQUIRY, AND RESEARCH)

THE TEACHER UNDERSTANDS THE IMPORTANCE OF RESEARCH AND INQUIRY SKILLS TO STUDENTS' ACADEMIC SUCCESS AND PROVIDES STUDENTS WITH INSTRUCTION THAT PROMOTES THEIR ACQUISITION AND EFFECTIVE USE OF THOSE STUDY SKILLS IN THE CONTENT AREAS.

The beginning teacher:

A. Teaches students how to locate, retrieve, and retain information from a range of content-area, narrative, and expository texts.

B. Selects and uses instructional strategies to help students comprehend abstract content and ideas in written materials (e.g., by using manipulatives, examples, and diagrams).

C. Selects and uses instructional strategies to teach students to interpret information presented in various formats (e.g., maps, tables, graphs) and how to locate, retrieve, and retain information from technologies, print resources, and experts.

D. Selects and uses instructional strategies to help students understand study and inquiry skills across the curriculum (e.g., by using text organizers; taking notes; outlining; drawing conclusions; applying test-taking strategies; previewing; setting purposes for reading; locating, organizing, evaluating, and communicating information; summarizing information; using multiple sources of information; interpreting and using graphic sources of information) and knows the significance of organizing information from multiple sources for student learning and achievement.

E. Knows grade-level expectations for study and inquiry skills in the Texas Essential Knowledge and Skills (TEKS).

F. Understands how to foster collaboration with families and with other professionals to promote all students' ability to develop effective research and comprehension skills in the content areas.

COMPETENCY 009 (WRITING CONVENTIONS)

THE TEACHER UNDERSTANDS THE CONVENTIONS OF WRITING IN ENGLISH AND PROVIDES INSTRUCTION THAT HELPS STUDENTS DEVELOP PROFICIENCY IN APPLYING WRITING CONVENTIONS.

The beginning teacher:

A. Understands that many students go through predictable stages in acquiring writing conventions—including the physical and cognitive processes involved in scribbling, recognition of environmental print, mock letters, letter formation, word writing, sentence construction, spelling, punctuation, and grammatical expression—but that individual students vary in their rates of development of these conventions.

B. Understands the relationship between spelling and phonological and alphabetic awareness and understands the contribution of conventional spelling toward success in reading and writing.

C. Understands the stages of spelling development (precommunicative "writing" [understands the function of writing but cannot make the forms], prephonemic, phonemic, transitional, and conventional) and knows how and when to support students' development from one stage to the next.

D. Provides spelling instruction and gives students opportunities to use and develop spelling skills in the context of meaningful written expression.

E. Selects and uses instructional strategies, materials, and hands-on activities for the development of the fine motor skills necessary for writing skills according to grade-level expectations in the Texas Essential Knowledge and Skills (TEKS).

F. Selects and uses instructional strategies, materials, and activities to help students use English writing conventions (e.g., grammar, capitalization, punctuation) in connected discourse.

G. Recognizes the similarities and differences between spoken and written English (e.g., in syntax, vocabulary choice) and uses instructional strategies to help students apply English writing conventions and enhance their own writing.

H. Knows writing conventions and appropriate grammar and usage and provides students with direct instruction and guided practice in these areas.

I. Selects and uses instructional strategies, materials, and activities to teach pencil grip.

COMPETENCY 010 (WRITTEN COMMUNICATION)

THE TEACHER UNDERSTANDS THAT WRITING TO COMMUNICATE IS A DEVELOPMENTAL PROCESS AND PROVIDES INSTRUCTION THAT PROMOTES STUDENTS' COMPETENCE IN WRITTEN COMMUNICATION.

The beginning teacher:

A. Teaches purposeful, meaningful writing in connection with listening, reading, and speaking.

B. Knows how to promote students' development of an extensive reading and writing vocabulary by providing students with many opportunities to read and write.

C. Monitors students' writing development and provides motivational instruction that addresses individual students' needs, strengths, and interests.

D. Understands differences between first-draft writing and writing for publication and provides instruction in various stages of writing, including prewriting, drafting, editing, and revising.

E. Understands the benefits of technology for teaching writing and for teaching writing for publication and provides instruction in the use of technology to facilitate written communication.

F. Understands writing for a variety of audiences, purposes, and settings and provides students with opportunities to write for various audiences, purposes, and settings and in various voices and styles.

G. Knows grade-level expectations in the Texas Essential Knowledge and Skills (TEKS).

H. Understands how to foster collaboration with families and with other professionals to promote students' development of writing skills.

COMPETENCY 011 (VIEWING AND REPRESENTING)

THE TEACHER UNDERSTANDS SKILLS FOR INTERPRETING, ANALYZING, EVALUATING, AND PRODUCING VISUAL IMAGES AND MESSAGES IN VARIOUS MEDIA AND PROVIDES STUDENTS WITH OPPORTUNITIES TO DEVELOP SKILLS IN THIS AREA.

The beginning teacher:

A. Knows grade-level expectations for viewing and representing visual images and messages as described in the Texas Essential Knowledge and Skills (TEKS).

B. Understands the characteristics and functions of different types of media (e.g., film, print) and knows how different types of media influence and inform.

C. Compares and contrasts print, visual, and electronic media.

D. Evaluates how visual image makers (e.g., illustrators, documentary filmmakers, political cartoonists, news photographers) represent messages and meanings, and provides students with opportunities to interpret and evaluate visual images in various media.

E. Knows how to teach students to analyze visual image makers' choices (e.g., style, elements, media) and evaluate how those choices help represent or extend meaning.

F. Provides students with opportunities to interpret events and ideas based on information from maps, charts, graphics, video segments, and technology presentations and to use media to compare ideas and points of view.

G. Knows steps and procedures for producing visual images and messages with various meanings to communicate with others.

H. Teaches students how to select, organize, and produce visuals to complement and extend meanings.

I. Provides students with opportunities to use technology for producing various types of communications (e.g., class newspapers, multimedia reports, video reports) and helps students analyze how language, medium, and presentation contribute to the message.

COMPETENCY 012 (ASSESSMENT OF DEVELOPING LITERACY)

THE TEACHER UNDERSTANDS THE BASIC PRINCIPLES OF LITERACY ASSESSMENT AND USES A VARIETY OF ASSESSMENTS TO GUIDE LITERACY INSTRUCTION.

The beginning teacher:

A. Knows how to select, administer, and use results from informal and formal assessments of literacy acquisition (e.g., alphabetic skills, literacy development, word analysis and word identification skills, fluency, comprehension, writing conventions, written communications, visual images, study skills) to address individual students' needs.

B. Knows the characteristics of informal and formal reading comprehension assessments (e.g., criterion-referenced state tests, curriculum-based reading assessments, informal reading inventories, norm-referenced tests).

C. Analyzes students' reading and writing performance and uses it as a basis for instruction.

D. Knows the state content and performance standards for reading, writing, listening, and speaking that constitute the Texas Essential Knowledge and Skills (TEKS) and recognizes when a student needs additional help or intervention to bring performance up to grade level.

E. Knows how to determine students' independent, instructional, and frustration reading levels and uses the information to select appropriate materials for individual students and to guide students' selection of independent reading materials.

F. Uses ongoing assessments to determine when a student may be in need of classroom intervention or specialized reading instruction and to develop appropriate instructional plans.

G. Understands how to foster collaboration with families and communicate students' progress in literacy development to parents/caregivers and to other professionals through a variety of means, including the use of examples of students' work.

H. Understands the use of self-assessment in writing and provides opportunities for students to self-assess their writings (e.g., for clarity, interest to audience, comprehensiveness) and their development as writers.

I. Knows how to select, administer, and use results from informal and formal assessments of literacy acquisition.

J. Analyzes students' errors in reading and responds to individual students' needs by providing focused instruction to promote literacy acquisition.

K. Knows informal and formal procedures for assessing students' use of writing conventions and uses multiple, ongoing assessments to monitor and evaluate students' development in that area.

L. Uses ongoing assessments of writing conventions to determine when students need additional help or intervention to bring students' performance to grade level based on state content and performance standards for writing in the Texas Essential Knowledge and Skills (TEKS).

M. Analyzes students' errors in applying writing conventions and uses the results of the analysis as a basis for future instruction.

N. Selects and uses a variety of formal and informal procedures for monitoring students' reading comprehension and adjusts instruction to meet the needs of individual students, including English-language learners.

DOMAIN II—MATHEMATICS

COMPETENCY 013 (MATHEMATICS INSTRUCTION)

THE TEACHER UNDERSTANDS HOW STUDENTS LEARN MATHEMATICAL SKILLS AND USES THAT KNOWLEDGE TO PLAN, ORGANIZE, AND IMPLEMENT INSTRUCTION AND ASSESS LEARNING.

The beginning teacher:

A. Plans appropriate instructional activities for all students by applying research-based theories and principles of learning mathematics.

B. Employs instructional strategies that build on the linguistic, cultural, and socioeconomic diversity of students and that relate to students' lives and communities.

C. Plans and provides developmentally appropriate instruction that establishes transitions between concrete, symbolic, and abstract representations of mathematical knowledge and that builds on students' strengths and addresses their needs.

D. Understands how manipulatives and technological tools can be used appropriately to assist students in developing, comprehending, and applying mathematical concepts.

E. Creates a learning environment that motivates all students and actively engages them in the learning process by using a variety of interesting, challenging, and worthwhile mathematical tasks in individual, small-group, and large-group settings.

F. Uses a variety of tools (e.g., counters, standard and nonstandard units of measure, rulers, protractors, scales, stopwatches, measuring containers, money, calculators, software) to strengthen students' mathematical understanding.

G. Implements a variety of instructional methods and tasks that promote students' ability to do the mathematics described in the Texas Essential Knowledge and Skills (TEKS).

H. Develops clear learning goals to plan, deliver, assess, and reevaluate instruction based on the mathematics in the Texas Essential Knowledge and Skills (TEKS).

I. Helps students make connections between mathematics and the real world, as well as between mathematics and other disciplines such as art, music, science, social science, and business.

J. Uses a variety of questioning strategies to encourage mathematical discourse and to help students analyze and evaluate their mathematical thinking.

K. Uses a variety of formal and informal assessments and scoring procedures to evaluate mathematical understanding, common misconceptions, and error patterns.

L. Understands the relationship between assessment and instruction and knows how to evaluate assessment results to design, monitor, and modify instruction to improve mathematical learning for all students, including English-language learners.

M. Understands the purpose, characteristics, and uses of various assessments in mathematics, including formative and summative assessments.

N. Understands how mathematics is used in a variety of careers and professions and plans instruction that demonstrates how mathematics is used in the workplace.

COMPETENCY 014 (NUMBER CONCEPTS AND OPERATIONS)

THE TEACHER UNDERSTANDS CONCEPTS RELATED TO NUMBERS, OPERATIONS AND ALGORITHMS, AND THE PROPERTIES OF NUMBERS.

The beginning teacher:

A. Analyzes, describes, and models relationships between number properties, operations, and algorithms for the four basic operations involving integers, rational numbers, and real numbers.

B. Demonstrates an understanding of equivalency among different representations of rational numbers.

C. Selects appropriate representations of real numbers (e.g., fractions, decimals, percents) for particular situations.

D. Demonstrates an understanding of ideas from number theory (e.g., prime factorization, greatest common divisor) as they apply to whole numbers, integers, and rational numbers, and uses those ideas in problem situations.

E. Understands the relative magnitude of whole numbers, integers, rational numbers, and real numbers.

F. Demonstrates an understanding of a variety of models for representing numbers (e.g., fraction strips, diagrams, patterns, shaded regions, number lines).

G. Uses a variety of concrete and visual representations to demonstrate the connections between operations and algorithms.

H. Applies knowledge of counting techniques, including combinations, to quantify situations and solve problems.

I. Applies knowledge of place value and other number properties to perform mental mathematics and computational estimation.

COMPETENCY 015 (PATTERNS AND ALGEBRA)

THE TEACHER UNDERSTANDS CONCEPTS RELATED TO PATTERNS, RELATIONS, FUNCTIONS, AND ALGEBRAIC REASONING.

The beginning teacher:

A. Illustrates relations and functions using concrete models, tables, graphs, and symbolic and verbal representations.

B. Demonstrates an understanding of the concept of linear function using concrete models, tables, graphs, and symbolic and verbal representations.

C. Understands how to use algebraic concepts and reasoning to investigate patterns, make generalizations, formulate mathematical models, make predictions, and validate results.

D. Formulates implicit and explicit rules to describe and construct sequences verbally, numerically, graphically, and symbolically.

E. Knows how to identify, extend, and create patterns using concrete models, figures, numbers, and algebraic expressions.

F. Uses properties, graphs, linear and nonlinear functions, and applications of relations and functions to analyze, model, and solve problems in mathematical and real-world situations.

G. Translates problem-solving situations into expressions and equations involving variables and unknowns.

H. Models and solves problems, including those involving proportional reasoning, using concrete, numeric, tabular, graphic, and algebraic methods.

I. Determines the linear function that best models a set of data.

J. Understands the concept of and relationships among variables, expressions, equations, inequalities, and systems in order to analyze, model, and solve problems.

COMPETENCY 016 (GEOMETRY AND MEASUREMENT)

THE TEACHER UNDERSTANDS CONCEPTS AND PRINCIPLES OF GEOMETRY AND MEASUREMENT.

The beginning teacher:

A. Applies knowledge of spatial concepts such as direction, shape, and structure.

B. Identifies, uses, and understands the development of formulas to find lengths, perimeters, areas, and volumes of basic geometric figures.

C. Uses the properties of congruent triangles to explore geometric relationships.

D. Understands concepts and properties of points, lines, planes, angles, lengths, and distances.

E. Analyzes and applies the properties of parallel and perpendicular lines.

F. Uses a variety of representations (e.g., numeric, verbal, graphic, symbolic) to analyze and solve problems involving two- and three-dimensional figures such as circles, triangles, polygons, cylinders, prisms, and spheres.

G. Uses symmetry to describe tessellations and shows how they can be used to illustrate geometric concepts, properties, and relationships.

H. Understands measurement as a process, including methods of approximation and estimation, and the effects of error on measurement.

I. Explains, illustrates, selects, and uses appropriate units of measurement to quantify and compare time, temperature, money, mass, weight, area, capacity, volume, percent, and speed.

J. Uses translations, rotations, and reflections to illustrate similarities, congruencies, and symmetries of figures.

K. Develops, justifies, and uses conversions within and between measurement systems.

L. Understands logical reasoning, justification, and proof in relation to the axiomatic structure of geometry and uses reasoning to develop, generalize, justify, and prove geometric relationships.

COMPETENCY 017 (PROBABILITY AND STATISTICS)

THE TEACHER UNDERSTANDS CONCEPTS RELATED TO PROBABILITY AND STATISTICS AND THEIR APPLICATIONS.

The beginning teacher:

A. Investigates and answers questions by collecting, organizing and displaying data in a variety of formats as described in the Texas Essential Knowledge and Skills (TEKS).

B. Demonstrates an understanding of measures of central tendency (e.g., mean, median, mode) and range and uses those measures to describe a set of data.

C. Explores concepts of probability through data collection, experiments, and simulations.

D. Uses the concepts and principles of probability to describe the outcome of simple and compound events.

E. Determines probabilities by constructing sample spaces to model situations.

F. Applies knowledge of the use of probability to make observations and draw conclusions.

G. Solves a variety of probability problems using combinations and geometric probability (i.e., probability as the ratio of two areas).

H. Supports arguments, makes predictions, and draws conclusions using summary statistics and graphs to analyze and interpret one-variable data.

I. Applies knowledge of designing, conducting, analyzing, and interpreting statistical experiments to investigate real-world problems.

J. Generates, simulates, and uses probability models to represent situations.

K. Uses the graph of the normal distribution as a basis for making inferences about a population.

COMPETENCY 018 (MATHEMATICAL PROCESSES)

THE TEACHER UNDERSTANDS MATHEMATICAL PROCESSES AND KNOWS HOW TO REASON MATHEMATICALLY, SOLVE MATHEMATICAL PROBLEMS, AND MAKE MATHEMATICAL CONNECTIONS WITHIN AND OUTSIDE OF MATHEMATICS.

The beginning teacher:

A. Understands the role of logical reasoning in mathematics and uses formal and informal reasoning to explore, investigate, and justify mathematical ideas.

B. Applies correct mathematical reasoning to derive valid conclusions from a set of premises.

C. Applies principles of inductive reasoning to make conjectures and uses deductive methods to evaluate the validity of conjectures.

D. Evaluates the reasonableness of a solution to a given problem.

E. Understands connections among concepts, procedures, and equivalent representations in areas of mathematics (e.g., algebra, geometry).

F. Recognizes that a mathematical problem can be solved in a variety of ways and selects an appropriate strategy for a given problem.

G. Expresses mathematical statements using developmentally appropriate language, standard English, mathematical language, and symbolic mathematics.

H. Communicates mathematical ideas using a variety of representations (e.g., numeric, verbal, graphic, pictorial, symbolic, concrete).

I. Demonstrates an understanding of the use of visual media such as graphs, tables, diagrams, and animations to communicate mathematical information.

J. Demonstrates an understanding of estimation and evaluates its appropriate uses.

K. Knows how to use mathematical manipulatives and a wide range of appropriate technological tools to develop and explore mathematical concepts and ideas.

L. Demonstrates knowledge of the history and evolution of mathematical concepts, procedures, and ideas.

M. Recognizes the contributions that different cultures have made to the field of mathematics and the impact of mathematics on society and cultures.

DOMAIN III—SOCIAL STUDIES

COMPETENCY 019 (SOCIAL SCIENCE INSTRUCTION)

THE TEACHER UNDERSTANDS AND APPLIES SOCIAL SCIENCE KNOWLEDGE AND SKILLS TO PLAN, ORGANIZE, AND IMPLEMENT INSTRUCTION AND ASSESS LEARNING.

The beginning teacher:

A. Understands the state social studies content and performance standards that constitute the Texas Essential Knowledge and Skills (TEKS).

B. Understands the vertical alignment of the social sciences in the Texas Essential Knowledge and Skills (TEKS) from grade level to grade level, including prerequisite knowledge and skills.

C. Understands and uses social studies terminology correctly.

D. Understands the implications of stages of student growth and development for designing and implementing effective learning experiences in the social sciences (e.g., knowledge of and respect for self, family, and communities; sharing; following routines; working cooperatively in groups).

E. Selects and applies effective, developmentally appropriate instructional practices, activities, technologies, and materials to promote students' knowledge and skills in the social sciences.

F. Selects and applies currently available technology as a tool for learning and communicating social studies concepts.

G. Selects and uses effective instructional strategies, activities, technologies, and materials to promote students' knowledge and skills in the social sciences.

H. Understands how to promote students' use of social science skills, vocabulary, and research tools, including currently available technological tools.

I. Applies instruction that relates skills, concepts, and ideas across different social science disciplines.

J. Provides and facilitates instruction that helps students make connections between knowledge and methods in the social sciences and in other content areas.

K. Uses a variety of formal and informal assessments and knowledge of the TEKS to determine students' progress and needs and to help plan instruction that addresses the strengths, needs, and interests of all students, including English-language learners and students with special needs.

L. Understands and relates practical applications of social science issues and trends.

M. Creates maps and other graphics to represent geographic, political, historical, economic, and cultural features, distributions, and relationships.

N. Communicates the value of social studies education to students, parents/caregivers, colleagues, and the community.

COMPETENCY 020 (HISTORY)

THE TEACHER UNDERSTANDS AND APPLIES KNOWLEDGE OF SIGNIFICANT HISTORICAL EVENTS AND DEVELOPMENTS, MULTIPLE HISTORICAL INTERPRETATIONS AND IDEAS, AND RELATIONSHIPS BETWEEN THE PAST, THE PRESENT, AND THE FUTURE AS DEFINED BY THE TEXAS ESSENTIAL KNOWLEDGE AND SKILLS (TEKS).

The beginning teacher:

A. Demonstrates an understanding of historical points of reference in the history of Texas, the United States, and the world.

B. Analyzes how individuals, events, and issues shaped the history of Texas, the United States, and the world.

C. Demonstrates an understanding of similarities and differences among Native American groups in Texas, the United States, and the Western Hemisphere before European colonization.

D. Demonstrates an understanding of the causes and effects of European exploration and colonization of Texas, the United States, and the Western Hemisphere.

E. Analyzes the influence of various factors (e.g., geographic contexts, processes of spatial exchange, science and technology) on the development of societies.

F. Demonstrates an understanding of basic concepts of culture and the processes of cultural adaptation, diffusion, and exchange.

G. Applies knowledge and analyzes the effects of scientific, mathematical, and technological innovations on political, economic, social, and environmental developments as they relate to daily life in Texas, the United States, and the world.

H. Demonstrates an understanding of historical information and ideas in relation to other disciplines.

I. Demonstrates an understanding of how to formulate historical research questions and use appropriate procedures to reach supportable judgments and conclusions in the social sciences.

J. Demonstrates an understanding of historical research and knows how historians locate, gather, organize, analyze, and report information by using standard research methodologies.

K. Knows the characteristics and uses of primary and secondary sources used for historical research (e.g., databases, maps, photographs, media services, the Internet, biographies, interviews, questionnaires, artifacts), analyzes historical information from primary and secondary sources, and understands and evaluates information in relation to bias, propaganda, point of view, and frame of reference.

L. Applies and evaluates the use of problem-solving processes, gathering of information, listing and considering options, considering advantages and disadvantages, choosing and implementing solutions, and assessing the effectiveness of solutions.

M. Applies and evaluates the use of decision-making processes to identify situations that require decisions: by gathering information, identifying options, predicting consequences, and taking action to implement the decisions.

N. Communicates and interprets historical information in written, oral, and visual forms and translates information from one medium to another (e.g., written to visual, statistical to written or visual).

O. Analyzes historical information by categorizing, comparing and contrasting, making generalizations and predictions, and drawing inferences and conclusions (e.g., regarding population statistics, patterns of migration, and voting trends and patterns).

P. Applies knowledge of the concept of chronology and its use in understanding history and historical events.

Q. Applies different methods of interpreting the past to understand, evaluate, and support multiple points of view, frames of reference, and the historical context of events and issues.

R. Demonstrates an understanding of the foundations of representative government in the United States, significant issues of the Revolutionary era, and challenges confronting the U.S. government in the early years of the Republic.

S. Demonstrates an understanding of westward expansion and analyzes its effects on the political, economic, and social development of the United States.

T. Analyzes ways that political, economic, and social factors led to the growth of sectionalism and the Civil War.

U. Understands individuals, issues, and events involved in the Civil War and analyzes the effects of Reconstruction on the political, economic, and social life of the United States.

V. Demonstrates an understanding of major U.S. reform movements of the nineteenth and twentieth centuries (e.g., abolitionism, women's suffrage, temperance).

W. Demonstrates an understanding of important individuals, issues, and events of the twentieth and twenty-first centuries in Texas, the United States, and the world.

X. Analyzes ways that particular contemporary societies reflect historical events (e.g., invasion, conquests, colonization, immigration).

COMPETENCY 021 (GEOGRAPHY AND CULTURE)

THE TEACHER UNDERSTANDS AND APPLIES KNOWLEDGE OF GEOGRAPHIC RELATIONSHIPS INVOLVING PEOPLE, PLACES, AND ENVIRONMENTS IN TEXAS, THE UNITED STATES, AND THE WORLD; AND ALSO UNDERSTANDS AND APPLIES KNOWLEDGE OF CULTURAL DEVELOPMENT, ADAPTATION, DIVERSITY, AND INTERACTIONS AMONG SCIENCE, TECHNOLOGY, AND SOCIETY AS DEFINED BY THE TEXAS ESSENTIAL KNOWLEDGE AND SKILLS (TEKS).

The beginning teacher:

A. Analyzes and applies knowledge of key concepts in geography (e.g., location, distance, region, grid systems) and knows the locations and the human and physical characteristics (e.g., culture, diversity) of places and regions in Texas, the United States, and the world.

B. Analyzes ways that location (absolute and relative) affects people, places, and environments.

C. Analyzes how geographic factors have influenced the settlement patterns, economic development, political relationships, and historical and contemporary societies, including those of regions in Texas, the United States, and the world.

D. Demonstrates an understanding of physical processes (e.g., erosion, deposition, and weathering; plate tectonics; sediment transfer; flows and exchanges of energy and matter in the atmosphere that produce weather and climate; weather patterns) and their effects on environmental patterns.

E. Analyzes how humans adapt to, use, and modify the physical environment and how the physical characteristics of places and human modifications to the environment affect human activities and settlement patterns.

F. Demonstrates an understanding of the physical environmental characteristics of Texas, the United States, and the world, past and present, and analyzes how humans have adapted to and modified the environment.

G. Examines how developments in science and technology affect the physical environment; the growth of economies and societies; and definitions of, access to, and the use of physical and human resources.

H. Demonstrates an understanding of basic concepts of culture and the processes of cultural adaptation, diffusion, and exchange.

I. Demonstrates an understanding of the contributions made by people of various racial, ethnic, and religious groups and analyzes the effects of race, gender, and socioeconomic class on ways of life in Texas, in the United States, and throughout the world.

J. Demonstrates an understanding of relationships among world cultures and of relationships between and among people from various groups—including racial, ethnic, and religious groups—in the United States and throughout the world.

K. Compares and analyzes similarities and differences in the ways various peoples at different times in history have lived and have met basic human needs, including the various roles of men, women, children, and families in past and present cultures.

L. Compares similarities and differences between Native American groups in Texas, the United States, and the Western Hemisphere before European colonization.

M. Applies knowledge of the role of families in meeting basic human needs and how families and cultures develop and use customs, traditions, and beliefs to define themselves.

N. Understands and applies the concept of diversity within unity.

O. Relates geographic and cultural information and ideas to information and ideas in other social sciences and other disciplines.

P. Formulates geographic and cultural research questions and uses appropriate procedures to reach supportable judgments and conclusions.

Q. Demonstrates an understanding of research related to geography and culture and knows how social scientists in those fields locate, gather, organize, analyze, and report information by using standard research methodologies.

R. Demonstrates an understanding of the characteristics and uses of various primary and secondary sources (e.g., databases, maps, photographs, media services, the Internet, biographies, interviews, questionnaires, artifacts), utilizes information from a variety of sources to acquire social science information, answers social science questions, and evaluates information in relation to bias, propaganda, point of view, and frame of reference.

S. Applies evaluative, problem-solving, and decision-making skills to geographic and cultural information, ideas, and issues by identifying problems, gathering information, listing and considering options, considering advantages and disadvantages, choosing and implementing solutions, and assessing the solutions' effectiveness.

T. Communicates and interprets geographic and cultural information in written, oral, and visual forms—including maps and other graphics—and translates the information from one medium to another (e.g., written to visual, statistical to written or visual).

U. Analyzes geographic and cultural data by using basic mathematical and statistical concepts and analytic methods.

V. Understands and analyzes the characteristics, distribution, and migration of populations and the interactions between people and the physical environment, including the effects of those interactions on the development of Texas, the United States, and the world.

W. Demonstrates knowledge of the institutions that exist in all societies and how the characteristics of those institutions may vary among societies.

X. Demonstrates an understanding of how people use oral tradition, stories, real and mythical heroes, music, paintings, and sculpture to represent culture in communities in Texas, the United States, and the world.

Y. Analyzes relationships among religion, philosophy, and culture and their impact on ways of life in Texas, the United States, and the world.

Z. Understands and analyzes how changes in science and technology relate to political, economic, social, and cultural issues and events.

COMPETENCY 022 (ECONOMICS)

THE TEACHER UNDERSTANDS AND APPLIES KNOWLEDGE OF ECONOMIC SYSTEMS AND HOW PEOPLE ORGANIZE ECONOMIC SYSTEMS TO PRODUCE, DISTRIBUTE, AND CONSUME GOODS AND SERVICES.

The beginning teacher:

A. Compares and contrasts similarities and differences in how various peoples at different times in history have lived and met basic human needs, including the various roles of men, women, students, and families in past and present cultures.

B. Understands and applies knowledge of basic economic concepts (e.g., economic system, goods and services, free enterprise, interdependence, needs and wants, scarcity, roles of producers and consumers, factors of production), knows that basic human needs are met in many ways, and understands the value and importance of work and purposes for spending, saving, and budgeting money.

C. Demonstrates knowledge of the ways people organize economic systems and of the similarities and differences among various economic systems around the world.

D. Understands and applies the knowledge of the characteristics, benefits, and development of the free-enterprise system in Texas and the United States and how businesses operate in the U.S. free-enterprise system.

E. Applies knowledge of the effects of supply and demand on consumers and producers in a free-enterprise system.

F. Demonstrates knowledge of patterns of work and economic activities in Texas and the United States, past and present, and describes how a society's economic level is measured.

G. Demonstrates an understanding of major events, trends, and issues in economic history (e.g., factors leading societies to change from rural to urban or agrarian to industrial, economic reasons for exploration and colonization, economic forces leading to the Industrial Revolution, processes of economic development in world areas, factors leading to the emergence of different patterns of economic activity in regions of the United States).

H. Analyzes the interdependence of the Texas economy with those of the United States and the world.

COMPETENCY 023 (GOVERNMENT AND CITIZENSHIP)

THE TEACHER UNDERSTANDS AND APPLIES KNOWLEDGE OF CONCEPTS OF GOVERNMENT, DEMOCRACY, AND CITIZENSHIP, INCLUDING WAYS THAT INDIVIDUALS AND GROUPS ACHIEVE THEIR GOALS THROUGH POLITICAL SYSTEMS.

The beginning teacher:

A. Understands and applies the purpose of rules and laws; the relationship between rules, rights, and responsibilities; the fundamental rights of American citizens guaranteed in the Bill of Rights and other amendments to the U.S. Constitution; and the individual's role in making and enforcing rules and ensuring the welfare of society.

B. Comprehends the basic structure and functions of the U.S. government, the Texas government, and local governments (including the roles of public officials) and relationships among national, state, and local governments.

C. Demonstrates knowledge of key principles and ideas contained in major political documents of Texas and the United States (e.g., Declaration of Independence, U.S. Constitution, Texas Constitution) and of relationships among political documents.

D. Demonstrates an understanding of how people organized governments in colonial America and during the early development of Texas.

E. Understands the political processes in the United States and Texas and how the U.S. political system works.

F. Demonstrates knowledge of types of government (e.g., democratic, totalitarian, monarchical) and their respective levels of effectiveness in meeting citizens' needs.

G. Understands the formal and informal processes of changing the U.S. and Texas Constitutions and the impact of changes on society.

H. Understands and promotes students' understanding of the impact of landmark Supreme Court cases.

I. Understands the components of the democratic process (e.g., voluntary individual participation, effective leadership, expression of different points of view) and each one's significance in a democratic society.

J. Demonstrates knowledge of important customs, symbols, and celebrations that represent American beliefs and principles and contribute to national unity.

K. Analyzes the relationships between individual rights, responsibilities, and freedoms in democratic societies.

L. Applies knowledge of the rights and responsibilities of citizens in Texas and the United States, past and present.

M. Understands how the nature, rights, and responsibilities of citizenship vary among societies.

DOMAIN IV—SCIENCE

COMPETENCY 024 (SAFE AND PROPER LABORATORY PROCESSES)

THE TEACHER UNDERSTANDS HOW TO MANAGE LEARNING ACTIVITIES, TOOLS, MATERIALS, EQUIPMENT, AND TECHNOLOGIES TO ENSURE THE SAFETY OF ALL STUDENTS.

The beginning teacher:

A. Understands safety regulations and guidelines for science facilities and science instruction.

B. Knows procedures for and sources of information regarding the appropriate handling, use, disposal, care, and maintenance of chemicals, materials, specimens, and equipment.

C. Knows procedures for the safe handling and ethical care and treatment of organisms and specimens.

D. Selects and safely uses appropriate tools, technologies, materials, and equipment needed for instructional activities.

E. Understands concepts of precision, accuracy, and error with regard to reading and recording numerical data from a scientific instrument.

F. Understands how to gather, organize, display, and communicate data in a variety of ways (e.g., charts, tables, graphs, diagrams, written reports, oral presentations).

G. Understands the international system of measurement (i.e., metric system) and performs unit conversions within measurement systems.

COMPETENCY 025 (SCIENTIFIC INQUIRY)

THE TEACHER UNDERSTANDS THE HISTORY AND NATURE OF SCIENCE, THE PROCESS AND ROLE OF SCIENTIFIC INQUIRY, AND THE ROLE OF INQUIRY IN SCIENCE INSTRUCTION.

The beginning teacher:

A. Understands, plans, and implements instruction that provides opportunities for all students to engage in nonexperimental- and experimental-inquiry investigations.

B. Focuses inquiry-based instruction on questions and issues relevant to students and uses strategies to assist students with generating, refining, and focusing scientific questions and hypotheses.

C. Understands and instructs students in the safe and proper use of a variety of grade-appropriate tools, equipment, resources, technology, and techniques to access, gather, store, retrieve, organize, and analyze data.

D. Knows how to guide students in making systematic observations and measurements.

E. Knows how to promote the use of critical-thinking skills, logical reasoning, and scientific problem solving to reach conclusions based on evidence.

F. Knows how to teach students to develop, analyze, and evaluate different explanations for a given scientific result.

G. Knows how to teach students to demonstrate an understanding of potential sources of error in inquiry-based investigation.

H. Knows how to teach students to demonstrate an understanding of how to communicate and defend the results of an inquiry-based investigation.

I. Understands principles of scientific ethics.

J. Understands the roles that logical reasoning, verifiable evidence, prediction, and peer review play in the process of generating and evaluating scientific knowledge.

K. Understands the historical development of science and the contributions that diverse cultures and individuals of both genders have made to scientific knowledge.

COMPETENCY 026 (IMPACT ON DAILY LIFE/ENVIRONMENT)

THE TEACHER UNDERSTANDS HOW SCIENCE IMPACTS THE DAILY LIVES OF STUDENTS AND INTERACTS WITH AND INFLUENCES PERSONAL AND SOCIETAL DECISIONS.

The beginning teacher:

A. Understands that decisions about the use of science are based on factors such as ethical standards, economics, and personal and societal needs.

B. Applies scientific principles to analyze the advantages of, disadvantages of, or alternatives to a given decision or course of action.

C. Applies scientific principles and processes to analyze factors that influence personal choices concerning fitness and health, including physiological and psychological effects and risks associated with the use of substances and substance abuse.

D. Understands concepts, characteristics, and issues related to changes in populations and human population growth.

E. Understands the types and uses of natural resources and the effects of human consumption on the renewal and depletion of resources.

F. Understands the role science can play in helping resolve personal, societal, and global challenges.

COMPETENCY 027 (UNIFYING CONCEPTS AND PROCESSES IN SCIENCE)

THE TEACHER KNOWS AND UNDERSTANDS THE UNIFYING CONCEPTS AND PROCESSES THAT ARE COMMON TO ALL SCIENCES.

The beginning teacher:

A. Understands how a unifying, explanatory framework across the science disciplines is provided by the concepts and processes of systems, order, and organization; evidence, models, and explanation; change, constancy, and measurements; and form and function.

B. Demonstrates an understanding of how patterns in observations and data can be used to make explanations and predictions.

C. Analyzes interactions and interrelationships between systems and subsystems.

D. Applies unifying concepts to explore similarities in a variety of natural phenomena.

E. Understands how properties and patterns of systems can be described in terms of space, time, energy, and matter.

F. Understands how change and constancy occur in systems.

G. Understands the complementary nature of form and function in a given system.

H. Understands how models are used to represent the natural world and how to evaluate the strengths and limitations of a variety of scientific models (e.g., physical, conceptual, mathematical).

COMPETENCY 028 (THEORY AND PRACTICE OF SCIENCE TEACHING)

THE TEACHER HAS THEORETICAL AND PRACTICAL KNOWLEDGE ABOUT TEACHING SCIENCE AND ABOUT HOW STUDENTS LEARN SCIENCE.

The beginning teacher:

A. Understands how developmental characteristics, prior knowledge and experience, and students' attitudes influence science learning.

B. Selects and adapts science curricula, content, instructional materials, and activities to meet the levels of interest, knowledge, and understanding as well as the abilities, experiences, and needs of all students, including English-language learners.

C. Understands how to use situations from students' daily lives to develop instructional materials that investigate how science can be used to make informed decisions.

D. Understands common misconceptions in science and has effective ways to address those misconceptions.

E. Understands developmentally appropriate design and implementation of hands-on learning experiences in science and selects effective, appropriate instructional practices, activities, technologies, and materials to promote students' scientific knowledge, skills, and inquiry processes.

F. Understands questioning strategies designed to elicit higher-level thinking and how to use them to move students from concrete to more abstract understanding.

G. Understands the importance of planning activities that are inclusive and that accommodate the needs of all students.

H. Understands how to sequence learning activities in a way that enables students to build on their prior knowledge and that challenges them to expand their understanding of science.

COMPETENCY 029 (ASSESSMENTS IN SCIENCE LEARNING)

THE TEACHER KNOWS THE VARIED AND APPROPRIATE ASSESSMENTS AND ASSESSMENT PRACTICES FOR MONITORING SCIENCE LEARNING IN LABORATORY, FIELD, AND CLASSROOM SETTINGS.

The beginning teacher:

A. Understands the relationships between a science curriculum, assessment, and instruction and bases instruction on information gathered through assessment of students' strengths and needs.

B. Understands the importance of monitoring and assessing students' understanding of science concepts and skills on an ongoing basis, including how to use formal and informal assessments of student performance and how to use products (e.g., projects, lab journals, rubrics, portfolios, student profiles, checklists) to evaluate students' understanding of and participation in the inquiry process.

C. Selects—or designs—and administers a variety of appropriate assessment methods (e.g., performance assessment, self-assessment, formal/informal assessment, formative/summative assessment) to monitor students' understanding and progress and to plan for instruction.

D. Understands the importance of communicating evaluation criteria and assessment results to students.

COMPETENCY 030 (PHYSICAL SCIENCE)

THE TEACHER UNDERSTANDS FORCES AND MOTION AND THEIR RELATIONSHIPS.

The beginning teacher:

A. Demonstrates an understanding of the properties of universal forces (e.g., gravitational, electrical, magnetic).

B. Understands how to measure, graph, and describe changes in motion by using concepts of position, direction of motion, and speed.

C. Analyzes the ways unbalanced forces acting on an object cause changes in the position or motion of the object.

D. Analyzes the relationship between force and motion in a variety of situations (e.g., simple machines, geologic processes).

COMPETENCY 031 (PHYSICAL SCIENCE)

THE TEACHER UNDERSTANDS THE PHYSICAL AND CHEMICAL PROPERTIES OF AND CHANGES IN MATTER.

The beginning teacher:

A. Describes the physical and chemical properties of substances (e.g., size, shape, temperature, magnetism, hardness, mass, conduction, density).

B. Describes the physical properties of solids, liquids, and gases.

C. Distinguishes between physical and chemical changes in matter.

D. Applies knowledge of physical and chemical properties of and changes in matter to processes and situations that occur in life science and earth and space science.

E. Distinguishes between mixtures and solutions and describes their properties.

F. Explains the importance of a variety of chemical reactions that occur in daily life (e.g., rusting, burning of fossil fuels, photosynthesis, cell respiration, chemical batteries, digestion of food).

COMPETENCY 032 (PHYSICAL SCIENCE)

THE TEACHER UNDERSTANDS ENERGY AND INTERACTIONS BETWEEN MATTER AND ENERGY.

The beginning teacher:

A. Understands conservation of energy and energy transformations and analyzes how energy is transformed from one form to another (e.g., mechanical, sound, heat, light, chemical, electrical) in a variety of everyday situations.

B. Understands the basic concepts of heat energy and related processes (e.g., melting, evaporation, boiling, condensation).

C. Understands the principles of electricity and magnetism and their applications (e.g., electric circuits, motors, audio speakers, lightning).

D. Applies knowledge of properties of light (e.g., reflection, refraction) to describe the functioning of optical systems and phenomena (e.g., camera, microscope, rainbow, eye).

E. Demonstrates an understanding of the properties, production, and transmission of sound.

COMPETENCY 033 (PHYSICAL SCIENCE)

THE TEACHER UNDERSTANDS ENERGY TRANSFORMATIONS AND THE CONSERVATION OF MATTER AND ENERGY.

The beginning teacher:

A. Describes sources of electrical energy and processes of energy transformation for human uses (e.g., fossil fuels, solar panels, hydroelectric plants).

B. Applies knowledge of transfer of energy in a variety of situations (e.g., the production of heat, light, sound, and magnetic effects by electrical energy; the process of photosynthesis; weather processes; food webs; food and energy pyramids).

C. Understands applications of energy transformations and the conservation of matter and energy in life and in earth and space science.

COMPETENCY 034 (LIFE SCIENCE)

THE TEACHER UNDERSTANDS THE STRUCTURE AND FUNCTION OF LIVING THINGS.

The beginning teacher:

A. Understands that living systems have different structures that perform different functions.

B. Understands and describes stages in the life cycles of common plants and animals.

C. Understands that organisms have basic needs.

D. Analyzes how structure complements function in cells, tissues, organs, organ systems, and organisms.

E. Identifies human body systems and describes their functions.

COMPETENCY 035 (LIFE SCIENCE)

THE TEACHER UNDERSTANDS REPRODUCTION AND THE MECHANISMS OF HEREDITY.

The beginning teacher:

A. Describes the processes by which plants and animals reproduce and explains how hereditary information is passed from one generation to the next.

B. Compares and contrasts inherited traits and learned characteristics.

C. Understands the organization of hereditary material and how an inherited trait can be determined by one or many genes and how more than one trait can be influenced by a single gene.

D. Distinguishes between dominant and recessive traits and predicts the probable outcomes of genetic combinations.

E. Evaluates the influence of environmental and genetic factors on the traits of an organism.

COMPETENCY 036 (LIFE SCIENCE)

THE TEACHER UNDERSTANDS ADAPTATIONS OF ORGANISMS AND THE THEORY OF EVOLUTION.

The beginning teacher:

A. Demonstrates knowledge of adaptive characteristics and explains how adaptations influence the survival of populations or species.

B. Describes how populations and species change through time.

C. Describes processes that enable traits to change through time, including selective breeding, mutation, and other natural occurrences.

COMPETENCY 037 (LIFE SCIENCE)

THE TEACHER UNDERSTANDS THE RELATIONSHIPS BETWEEN ORGANISMS AND THE ENVIRONMENT.

The beginning teacher:

A. Understands that organisms respond to internal or external stimuli and analyzes the role of internal and external stimuli in the behavior of organisms.

B. Understands relationships between organisms and the environment and describes ways that living organisms depend on one another and on the environment to meet their basic needs.

C. Identifies organisms, populations, or species with similar needs and analyzes how they compete with one another for resources.

D. Analyzes the interrelationships and interdependence among producers, consumers, and decomposers in an ecosystem (e.g., food webs, food chains, competition, predation).

E. Identifies factors that influence the size and growth of populations in an ecosystem.

F. Analyzes adaptive characteristics that result in a population's or species' unique niche in an ecosystem.

G. Knows how populations and species modify and affect ecosystems.

COMPETENCY 038 (EARTH AND SPACE SCIENCE)

THE TEACHER UNDERSTANDS THE STRUCTURE AND FUNCTION OF EARTH SYSTEMS.

The beginning teacher:

A. Understands the structure of Earth and analyzes constructive and destructive processes that produce geologic change.

B. Understands the form and function of surface water and groundwater.

C. Applies knowledge of the composition and structure of the atmosphere and its properties.

D. Applies knowledge of how human activity and natural processes, both gradual and catastrophic, can alter Earth systems.

COMPETENCY 039 (EARTH AND SPACE SCIENCE)

THE TEACHER UNDERSTANDS CYCLES IN EARTH SYSTEMS.

The beginning teacher:

A. Understands the rock cycle and how rocks, minerals, and soils are formed.

B. Understands the water cycle and its relationship to weather processes.

C. Understands the nutrient (e.g., carbon, nitrogen) cycle and its relationship to Earth systems.

D. Applies knowledge of how human and natural processes affect Earth systems.

E. Understands and describes the properties and uses of Earth materials (e.g., rocks, soils, water, atmospheric gases).

COMPETENCY 040 (EARTH AND SPACE SCIENCE)

THE TEACHER UNDERSTANDS THE ROLE OF ENERGY IN WEATHER AND CLIMATE.

The beginning teacher:

A. Understands the elements of weather (e.g., humidity, wind speed, pressure, temperature) and the tools used for measurement.

B. Compares and contrasts weather and climate.

C. Analyzes weather charts and data to make weather predictions.

D. Applies knowledge of how transfers of energy between Earth systems affect weather and climate.

E. Analyzes how Earth's position, orientation, and surface features affect weather and climate.

COMPETENCY 041 (EARTH AND SPACE SCIENCE)

THE TEACHER UNDERSTANDS THE CHARACTERISTICS OF THE SOLAR SYSTEM AND THE UNIVERSE.

The beginning teacher:

A. Understands the properties and characteristics of objects in the sky.

B. Applies knowledge of the Earth-Moon-Sun system and the interactions between them (e.g., seasons, lunar phases, eclipses).

C. Identifies properties of the components of the solar system.

DOMAIN V—FINE ARTS, HEALTH, AND PHYSICAL EDUCATION

COMPETENCY 042 (VISUAL ARTS)

THE TEACHER UNDERSTANDS THE CONCEPTS, PROCESSES, AND SKILLS INVOLVED IN THE CREATION, APPRECIATION, AND EVALUATION OF ART AND USES THAT KNOWLEDGE TO PLAN AND IMPLEMENT EFFECTIVE AND ENGAGING VISUAL ARTS INSTRUCTION.

The beginning teacher:

A. Knows and understands how perception is developed through observation, prior knowledge, imaginative and cognitive processes, and multisensory experiences.

B. Selects and uses instructional strategies, materials, and activities to help students deepen and expand their ability to perceive and reflect on the environment.

C. Knows and understands how critical thinking and creative problem solving are applied in the perception of artworks.

D. Demonstrates knowledge of the elements of art (i.e., color, texture, shape, form, line, space, value) and provides instruction that promotes students' understanding of the elements of art as well as students' ability to apply that understanding in creating original artworks.

E. Demonstrates knowledge of the principles of art (e.g., emphasis, contrast, pattern, rhythm, balance, proportion, unity) and provides instruction that promotes students' understanding of the principles of art as well as students' ability to apply that understanding in creating original artworks.

F. Selects appropriate techniques that are used to create art in various media—including drawing, painting, printmaking, construction, ceramics, fiber art, and electronic media—and promotes students' ability to use those techniques in creating original artworks.

G. Understands how different cultures use art elements and principles to create art and convey meaning in different ways.

H. Selects and uses instructional strategies, materials, and activities to promote students' awareness and appreciation of the characteristics of a variety of art forms of multiple cultures within and outside the Western tradition.

I. Provides instruction to develop the skills and knowledge required for visual literacy (e.g., knowledge of art elements and principles, of the art of different areas and cultures, of the diverse purposes and uses of art).

J. Integrates instruction in the visual arts with instruction in other subject areas.

K. Understands how students develop cognitively and artistically and knows how to implement effective art instruction and assessment that are individually, culturally, and age appropriate.

L. Applies knowledge of visual arts content and curriculum based on the Texas Essential Knowledge and Skills (TEKS) and of students in early childhood through grade 6 to plan and implement effective, developmentally appropriate art instruction.

COMPETENCY 043 (MUSIC)

THE TEACHER UNDERSTANDS THE CONCEPTS, PROCESSES, AND SKILLS INVOLVED IN THE CREATION, APPRECIATION, AND EVALUATION OF MUSIC AND USES THAT KNOWLEDGE TO PLAN AND IMPLEMENT EFFECTIVE AND ENGAGING MUSIC INSTRUCTION.

The beginning teacher:

A. Knows how to involve students in activities that promote lifelong enjoyment of music and provides students with a wide range of opportunities to make and respond to music so as to help students develop music skills that are relevant to their own lives.

B. Applies knowledge of standard terminology for describing and analyzing musical sound (e.g., rhythm, melody, form, timbre, tempo, pitch, meter, dynamics, intonation, intervals) and has a basic understanding of how to read, write, recognize aurally, and interpret standard music notation.

C. Knows how to arrange vocal and instrumental music for specific purposes and settings.

D. Knows and understands music of diverse genres, styles, and cultures.

E. Demonstrates an understanding of the purposes and roles of music in society and how music can reflect elements of a specific society or culture.

F. Explains a variety of music and music-related career options.

G. Identifies and describes how music reflects the heritage of the United States and Texas.

H. Applies knowledge of criteria for evaluating and critiquing musical performances and experiences, including using standard terminology in communicating about students' musical skills and performance.

I. Integrates instruction in music with instruction in other subject areas.

J. Knows how to teach students to sing and/or play an instrument with expression either independently or in small groups.

K. Applies knowledge of music content and curriculum based on the Texas Essential Knowledge and Skills (TEKS) and of students in early childhood through grade 6 to plan and implement effective, developmentally appropriate instruction, including instruction that promotes students' creativity and performance skills as well as students' ability to use critical-thinking and problem-solving skills in music contexts.

L. Manages time, instructional resources, and physical space effectively for music education.

COMPETENCY 044 (HEALTH)

THE TEACHER USES KNOWLEDGE OF THE CONCEPTS AND PURPOSES OF HEALTH EDUCATION TO PLAN AND IMPLEMENT EFFECTIVE AND ENGAGING HEALTH INSTRUCTION.

The beginning teacher:

A. Understands health-related behaviors, ways that personal health decisions and behaviors affect body systems and health, and strategies for reducing health risks and enhancing wellness throughout the life span.

B. Demonstrates knowledge of major areas in health instruction, including body systems and development (e.g., structures and functions of various body systems and relationships among body systems), illness and disease (e.g., types of disease, transmission mechanisms, defense systems, disease prevention), nutrition (e.g., types of foods and nutrients, maintenance of a balanced diet), stress (e.g., effects of stress, stress-reduction techniques), and fitness (e.g., components of fitness, methods for improving fitness).

C. Knows and understands stages of human growth and development, including physical and emotional changes that occur during adolescence.

D. Understands substance use and abuse (including types and characteristics of tobacco, alcohol, and other drugs and of herbal supplements).

E. Understands types of violence and abuse (including causes and effects of violence and abuse and ways to prevent and seek help in dealing with violence and abuse).

F. Selects and uses instructional strategies, materials, and activities to teach principles and procedures related to safety, accident prevention, and response to emergencies.

G. Applies critical-thinking, goal-setting, problem-solving, and decision-making skills in health-related contexts and understands the use of refusal skills and conflict resolution to avoid unsafe situations (e.g., bullying).

H. Knows and understands strategies for coping with unhealthy behaviors in the family (e.g., abuse, alcoholism, neglect).

I. Understands types and symptoms of eating disorders.

J. Knows how to use various social and communication skills to build and maintain healthy interpersonal relationships (e.g., tolerance, respect, discussing problems with parents/caregivers, showing empathy).

K. Understands health-care responses to early detection and warning signs of illness, to internal injury, and to threat to safety.

L. Selects and uses instructional strategies, materials, and activities to help students build healthy interpersonal relationships (e.g., communication skills) and demonstrates consideration and respect for self, family, friends, and others (e.g., practicing self-control).

M. Understands the influence of various factors (e.g., media, technology, peer and other relationships, environmental hazards) on individual, family, and community health.

N. Demonstrates knowledge of sources of health information and ways to use information to make health-related decisions.

O. Selects and uses instructional strategies, materials, and activities to help students understand the roles of health-care professionals, the benefits of health maintenance activities, and the skills for becoming healthwise consumers.

P. Applies knowledge of health content and curriculum based on the Texas Essential Knowledge and Skills (TEKS) and of students in early childhood through grade 6 to plan and implement effective, developmentally appropriate health instruction, including relating the health education curriculum to other content areas.

COMPETENCY 045 (PHYSICAL EDUCATION)

THE TEACHER USES KNOWLEDGE OF THE CONCEPTS, PRINCIPLES, SKILLS, AND PRACTICES OF PHYSICAL EDUCATION TO PLAN AND IMPLEMENT EFFECTIVE AND ENGAGING PHYSICAL EDUCATION INSTRUCTION.

The beginning teacher:

A. Applies key principles and concepts in physical education and physical activity (e.g., cardiovascular endurance, muscular strength, flexibility, weight control, conditioning, safety, stress management, nutrition) for the promotion of health and fitness.

B. Knows and helps students understand the benefits of an active lifestyle.

C. Understands appropriate methods, including technological methods, for evaluating, monitoring, and improving fitness levels.

D. Applies knowledge of movement principles and concepts to develop students' motor skills including understanding key elements of mature movement patterns (e.g., throw, jump, catch) and various manipulative skills (e.g., volley, dribble, punt, strike).

E. Selects and uses developmentally appropriate learning experiences that enhance students' locomotor, nonlocomotor, body control, manipulative, and rhythmic skills.

F. Modifies instruction based on students' individual differences in growth and development.

G. Evaluates movement patterns to help students improve performance of motor skills and to integrate and refine their motor and rhythmic skills.

H. Understands a variety of strategies and tactics designed to improve students' performance, teamwork, and skill combinations in games and sports.

I. Selects and uses instructional strategies to promote students' knowledge and application of rules, procedures, etiquette, and fair play in developmentally appropriate games and activities.

J. Designs, manages, and adapts physical education activities to promote positive interactions and active engagement by all students.

K. Understands areas of diverse needs (e.g., physical and emotional challenges, learning disabilities, sensory difficulties, language differences) and their implications for teaching and learning.

L. Applies knowledge of physical education content and curriculum based on the Texas Essential Knowledge and Skills (TEKS) and of students in early childhood through grade 6 to plan, implement, and assess effective, developmentally appropriate physical education activities.

Chapter 4

Succeeding on Multiple-Choice Questions

APPROACHES TO ANSWERING MULTIPLE-CHOICE QUESTIONS

The purpose of this section is to describe multiple-choice question formats that you will see on the Generalist EC–6 test and to suggest possible ways to approach thinking about and answering the multiple-choice questions. However, these approaches are not intended to replace test-taking strategies with which you are already comfortable and that work for you.

The Generalist EC–6 test is designed to include 125 scorable and 15 nonscorable multiple-choice questions. Your final scaled score will be based only on scorable questions. The nonscorable multiple-choice questions are being pilot tested by including them in the test in order to collect information about how these questions will perform under actual testing conditions. Nonscorable test questions are not considered in calculating your score, and they are not identified on the test.

All multiple-choice questions on this test are designed to assess your knowledge of the content described in the test framework. The multiple-choice questions assess your ability to recall factual information and to think critically about the information, analyze it, consider it carefully, compare it with other knowledge you have, or make a judgment about it.

When you are ready to respond to a multiple-choice question, you must choose one of four answer choices labeled A, B, C, and D. Leave no questions unanswered. Nothing is subtracted from a score if you answer a question incorrectly. Questions for which you mark no answer or more than one answer are not counted in scoring. Your score will be determined by the number of questions for which you select the best answer.

QUESTION FORMATS

You may see the following types of multiple-choice questions on the test.

— Single Questions

— Questions with Stimulus Materials

— Clustered Questions

On the following pages, you will find descriptions of these commonly used question formats, along with suggested approaches for responding to each type of question. In the actual testing situation, you may mark the test questions and/or write in the margins of your test booklet. **Your final response must be indicated on the answer sheet provided.**

SINGLE QUESTIONS

In the single question format, a problem is presented as a direct question or an incomplete statement, and four answer choices appear below the question. The following question is an example of this type. It tests knowledge of Generalist EC–6 Competency 013: *The teacher understands how students learn mathematical skills and uses that knowledge to plan, organize, and implement instruction and assess learning.*

EXAMPLE

Which of the following would be a pre-kindergarten teacher's best strategy for helping students understand the concept of one-to-one correspondence?

A. Have the students pretend to purchase objects using play money in denominations of pennies, dimes, and dollars.

B. Provide the students with sets of similar objects to arrange in order of size.

C. Have the students take turns setting the table at snack time, placing a cup or a napkin in front of each chair.

D. Provide the students with objects to compare in terms of features such as color and length.

SUGGESTED APPROACH

Read the question carefully and critically. Think about the question that is being asked. Eliminate any obviously wrong answers, select the correct answer choice, and mark it on your answer sheet.

As you read this question, think about the mathematical concept the teacher wishes to address. The concept of one-to-one correspondence is fundamental to an understanding of number and counting. The daily classroom routine of setting the table at snack time (option C) provides a good opportunity for young students to gain direct experience with matching objects one-to-one, in this case, one napkin to each place setting.

While the other activities would promote students' understanding of various mathematical ideas, they would not be effective for developing the concept of one-to-one correspondence. The use of play money to make pretend purchases (option A) is a more complex activity that requires knowledge of the value of various denominations of coins and bills rather than simple one-to-one matching. Comparing and ordering objects by attribute (e.g., by size, as in option B, or by color or length, as in option D) involve important mathematics-related ideas, but these activities would not specifically foster students' understanding of one-to-one correspondence.

QUESTIONS WITH STIMULUS MATERIAL

Some questions are preceded by stimulus material that relates to the question. Some examples of stimulus material included on the test are teacher notes, samples of student work, and descriptions of classroom situations. In such cases, you will generally be given information followed by an event to analyze, a problem to solve, or a decision to make.

Two or more questions may be related to a single stimulus. You can use several different approaches to answer these types of questions. Some commonly used strategies are listed on the next page.

Strategy 1 Skim the stimulus material to understand its purpose, its arrangement, and/or its content. Then read the question and refer again to the stimulus material to verify the correct answer.

Strategy 2 Read the question *before* considering the stimulus material. The theory behind this strategy is that the content of the question will help you identify the purpose of the stimulus material and locate the information you need to answer the question.

Strategy 3 Use a combination of both strategies. Apply the "read the stimulus first" strategy with shorter, more familiar stimuli and the "read the question first" strategy with longer, more complex, or less familiar stimuli. You can experiment with the sample questions in this manual and then use the strategy with which you are most comfortable when you take the actual test.

Whether you read the stimulus before or after you read the question, you should read it carefully and critically. You may want to underline its important points to help you answer the question.

As you consider questions set in educational contexts, try to enter into the identified teacher's frame of mind and use that teacher's point of view to answer the questions that accompany the stimulus. Be sure to consider the questions in terms of only the information provided in the stimulus—not in terms of your own class experiences or individual students you may have known.

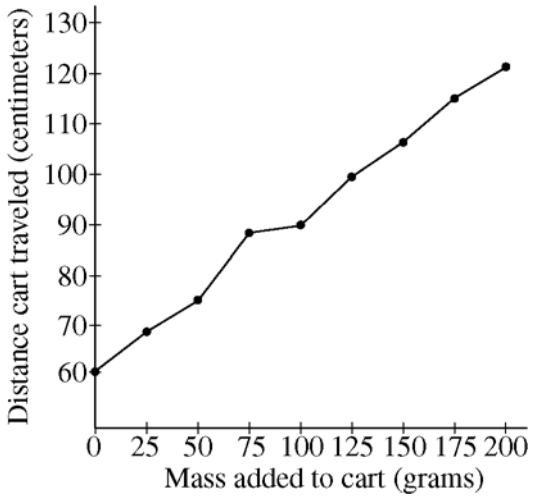
EXAMPLE 1

First read the stimulus.

Use the information below to answer the questions that follow.

> A group of fourth-grade students wished to test a hypothesis that adding mass to a cart rolled down a ramp would increase the distance the cart would travel along the floor. To do this, they designed and carried out the following experiment using a toy cart with a mass of 200 g, a small ramp, and several 25 g masses.
>
> 1. Make a line across the ramp near the top.
> 2. Line up the front wheels of the cart with the line.
> 3. Let go of the cart without pushing it.
> 4. When the cart stops, measure the distance from the bottom of the ramp to the place where the front wheels stopped. Write down this distance.
> 5. Add a 25 g mass to the cart.
> 6. Repeat until a total of 200 g has been added to the cart.

To see more clearly the relationship between the amount of mass added to the cart and the distance it traveled, the students graphed their results. Their graph is shown below.



Now you are prepared to address the first of the two questions associated with this stimulus. The first question measures Competency 030: *The teacher understands forces and motion and their relationships.*

1. The students were concerned about the measurement they obtained when 75 g were added to the cart because it did not seem to fit into the pattern created by the other results. Now they would like to repeat the investigation to determine whether this distance is correct. To improve their investigative design and to get more reliable results, the students' best modification to the investigation would be to

   A. measure the total distance the cart traveled from the top of the ramp to where it stopped.

   B. have two students measure independently the distance the cart traveled.

   C. change the height on the ramp at which the cart is released.

   D. release the cart several times at each mass and use the average distance traveled.

SUGGESTED APPROACH

Read the question carefully and critically. Think about the question that is being asked. Eliminate any obviously wrong answers, select the correct answer choice, and mark it on your answer sheet.

The students' objective is to modify the design of their investigation to increase the reliability of the results. The term *reliability* refers to whether similar results are obtained each time the investigation is carried out. The students have already put several guidelines in place to increase reliability, such as releasing the cart in the same way and starting it from the same position every time. Even under these conditions, however, a cart carrying a given mass is unlikely to travel exactly the same distance at every trial. For example, it may travel an unusually long distance if given a slight push when released, or it may travel an unusually short distance if a wheel gets stuck. However, if (as in option D) the cart is released several times at a given mass and the *average* distance is calculated, the effects of any discrepant results are likely to be minimized. This will help ensure that repetitions of the investigation would yield similar results.

The other three response choices would not address the situation described in the scenario. Option A, measuring from the top instead of the bottom of the ramp, and option C, changing the height from which the cart is released, would affect the magnitude of the measurements obtained but would not improve the reliability of the investigative design. Option B, having two different students measure the distance the cart traveled, might help in obtaining slightly more reliable measurements of each trial, but it would provide only two data points for each trial, compared to several data points obtained under similar conditions and then averaged (option D).

Option D is therefore the correct response.

EXAMPLE 2

Now you are ready to answer the second question. This question measures Competency 025: *The teacher understands the history and nature of science, the process and role of scientific inquiry, and the role of inquiry in science instruction.*

2. An appropriate way to assess the students' ability to use higher-order thinking skills to draw conclusions based on these experimental data would be to have the students

   A. predict the distance the cart would travel if 250 g were added.

   B. determine how much farther the cart traveled with 200 g than with 100 g.

   C. convert the measurements into other units within the International System of Units (metric system).

   D. describe what the graph would look like if the divisions on the vertical axis were spaced farther apart.

SUGGESTED APPROACH

Read the question carefully and critically. Think about the question that is being asked. Eliminate any obviously wrong answers, select the correct answer choice, and mark it on your answer sheet.

The teacher wishes to assess students' ability to draw conclusions based on the data obtained in the investigation. One especially good way to do this would be to determine whether students were able to make reasonable predictions based on the information illustrated by the graph. Having students predict how far the cart would travel if the load were increased to 250 grams (option A) would require students to analyze the results obtained so far and apply them hypothetically.

The other responses would not serve the teacher's purpose. Option B, having the students determine how much farther the cart traveled with 200 grams than with 100 grams, would be a simple matter of checking the distance at each mass and subtracting to find the difference. Option C, similarly, would merely require the application of a conversion formula. Option D would involve the more difficult cognitive task of visualizing how the appearance of the graph would change if the space between the vertical divisions were increased, but it would not require the application of higher-order thinking based on the experimental data.

Option A is therefore the correct response.

CLUSTERED QUESTIONS

You may have one or more questions related to a single stimulus. When you have at least two questions related to a single stimulus, the group of questions is called a cluster.

Chapter 5

Multiple-Choice Practice Questions

SAMPLE MULTIPLE-CHOICE QUESTIONS

This section presents some sample test questions for you to review as part of your preparation for the test. To demonstrate how each competency may be assessed, each sample question is accompanied by the competency that it measures. While studying, you may wish to read the competency before and after you consider each sample question. Please note that the competency statements will not appear on the actual test form.

An answer key follows the sample questions. The answer key lists the question number and correct answer for each sample test question. Please note that the answer key also lists the competency assessed by each question and that the sample questions are not necessarily presented in competency order.

The sample questions are included to illustrate the formats and types of questions you will see on the test; however, your performance on the sample questions should not be viewed as a predictor of your performance on the actual test.

COMPETENCY 001

1. A pre-kindergarten teacher could best promote the development of students' listening skills by

   A. pausing occasionally when speaking to ask individual students to repeat what was just said.

   B. using attentive listening behavior when students are speaking.

   C. integrating specific listening activities as a routine element in the daily schedule.

   D. frequently reminding students to think hard about what they are hearing.

COMPETENCY 002

2. Ms. Aguirre has several English-language learners (ELLs) in her class. To provide her ELL students with additional support, Ms. Aguirre often incorporates body movement into her verbal interaction with her students by clapping the syllables of words in simple sentences. Her approach focuses primarily on which of the following skills?

   A. Phonological awareness

   B. Pragmatics

   C. Phonics

   D. Syntax

COMPETENCY 003

3. During the morning message, a kindergarten teacher produces the /t/ sound and asks the students, "Who can show me the letter in the morning message that makes that sound?" A student then uses a pointer to identify the letter that corresponds with that sound. Which of the following concepts is the teacher primarily addressing?

   A. Phonemic awareness

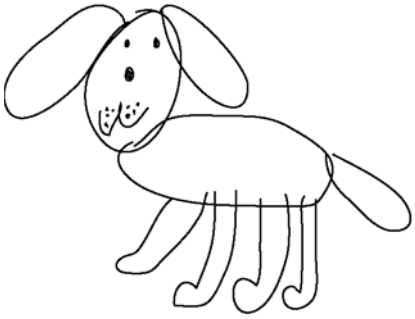
   B. Alphabetic principle

   C. Fluency

   D. Schema

COMPETENCY 004

4. Renee, a pre-kindergartener, shows her teacher a picture she has drawn of her puppy. She tells the teacher, "It says, 'This is my puppy, Oscar.'" Renee's writing demonstrates that she has an understanding of which of the following concepts about print?



A. Words are read from left to right

B. Print carries meaning

C. Letters correspond with sounds

D. Sentences are composed of words

COMPETENCY 004

5. A fourth-grade teacher has each student choose a novel and then places the students into small groups based on their book choice. Each group meets periodically. While the teacher facilitates each group's meetings, the students decide the reading selections and discussion topics. The instructional practice outlined can be best described as

A. guided reading.

B. literature circles.

C. shared reading.

D. choral reading.

COMPETENCY 005

6. Ms. Gonzales has her third-grade students read the following sentence from a science text to themselves.

   "After the volcano erupted, lava flowed down into the forest, destroying all the trees and vegetation."

   One of the students asks Ms. Gonzales what the word "erupted" means. Which of the following actions by Ms. Gonzales would best foster students' independent use of reading strategies?

   A. Providing the students with sentences that use the word correctly and sentences that use the word incorrectly

   B. Giving the students a quick and simple definition of the word as it relates to the text they are reading

   C. Modeling the process of using the surrounding text to determine the meaning of the word

   D. Instructing the students to reread the sentence until they discover the meaning of the word on their own

COMPETENCY 006

7. To best assess a student's accuracy and rate of reading, a teacher should have the student

   A. read a passage silently for one minute and then write a summary of it.

   B. read out loud for one minute from a list of words of varying difficulty while the teacher records miscues.

   C. read a passage with words omitted out loud for one minute and then fill in the blanks with appropriate words.

   D. read a passage out loud for one minute while the teacher records miscues.

COMPETENCY 007

8. Mr. Silva's first-grade students make a chart of their predictions about a story prior to reading the story. As they read the story, they refer to their chart to confirm or change their predictions. The primary instructional purpose for the activity is to help students

   A. understand how to use a story map to organize thoughts.

   B. develop a richer and more extensive vocabulary.

   C. recognize that writing is connected to reading.

   D. make inferences to aid in comprehension.

COMPETENCY 008

9. A social studies teacher is beginning a unit on the colonization of North America. As an introduction to the unit, the students will read a selection of journal entries from a crew member who accompanied Christopher Columbus on his first voyage to the New World. The journal entries are examples of

   A. expository text.

   B. narrative text.

   C. an autobiography.

   D. historical fiction.

COMPETENCY 009

10. A first-grade teacher who is working with a group of beginning readers gives each student a set of word cards. On each card is printed a word that the students have already learned to read (e.g., "he," "she," "sees," "loves," "has," "the," "a," "dog," "cat," and "pail"). The teacher shows the students how to arrange the cards to create a statement (e.g., "she sees the cat"). Students then create their own statements and read them aloud. One goal of the activity is to promote students' reading development by reinforcing word-recognition skills. In addition, the activity can be expected to promote students' writing development by

    A. helping them learn to view writing as a useful tool for communication.

    B. promoting their recognition of similarities and differences between written and oral language.

    C. building their understanding of basic syntactic structures.

    D. helping develop their understanding of the value of writing conventions (e.g., capitalization, punctuation).

COMPETENCY 009

11. The following is a writing excerpt from a first grader.

> *The Katipilr was haging on the tree banch. It gru and gru then it bkam a Butifl Buttrfli.*

Which of the following stages of the writing workshop process is the student ready to initiate next?

A. Publishing

B. Prewriting

C. Revising

D. Drafting

Use the information below to answer the questions that follow.

A fourth-grade teacher uses readers' notebooks weekly in her class. Students write in their notebooks, and the teacher responds to each student individually, using the notebooks as a tool for ongoing communication. This week the teacher provides a variety of picture books and chapter books on a fourth-grade reading level or below and allows students to select one. After reading their books silently, students receive the following instructions from the teacher.

Write a letter to me in your reader's notebook, and answer the following two questions.

1) What do you think the author's main message to the reader is in the book you read and why?
2) Write a 1–3 sentence quotation from the book that best describes the character you like most. Explain why this character is your favorite and how the quote reflects the character.

COMPETENCY 010

12. The main purpose of the activity is to increase students'

A. comprehension of the main points of the book.

B. use of imagination and creativity.

C. interest in reading different genres of books.

D. ability to support their textual interpretations.

COMPETENCY 010

13. Which of the following is the best strategy for adapting the activity for a student with dyslexia?

A. Requesting that the student go to the library and choose a book on tape to better understand the story

B. Having the student dictate his letter to a scribe and then respond to the letter orally in a one-on-one conference

C. Helping the student in choosing a book below his instructional reading level to maximize comprehension

D. Establishing a time limit to ensure the student completes the letter in class so he can receive the appropriate assistance

COMPETENCY 011

14. Mr. Kaper's pre-kindergarten class has been studying the neighborhood surrounding their school and have taken many walking field trips to businesses and restaurants. Mr. Kaper posts pictures from each of the places they visited. Which of the following activities would provide the best opportunity for the students to compare and interpret information using these visual images?

    A. The class will create a class book describing the places they visited.

    B. Students will draw pictures of their favorite place the class visited.

    C. The class will make a picture-graph categorizing each place they visited.

    D. Students will complete an independent project depicting their homes.

COMPETENCY 012

15. A first-grade teacher meets with her students before their first visit to the library. She shares with students the following routine. "Open the book to the middle. Read the page to yourself. Hold up one finger for each word you do not know how to pronounce. If you get to five fingers, then the book is too hard. Pick a different book." The main purpose of the teacher's instructions is to guide the students to

    A. locate books in the library by author and by topic.

    B. select books at an independent reading level.

    C. read fluently with few errors in pronunciation.

    D. practicing decoding new and unfamiliar words.

COMPETENCY 013

16. A teacher is working with a group of first-grade students on exploring the concept of ten. Which of the following activities would be most effective in helping the students grasp the concept of ten?

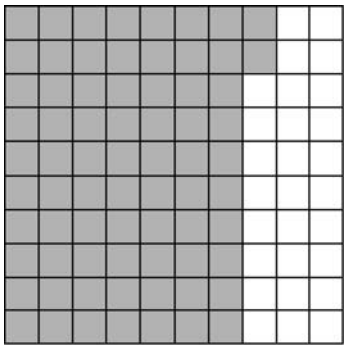
    A. Coloring in the even numbers on a hundred chart

    B. Estimating the number of chocolate chips in a bag

    C. Writing the numerals for one to ten on dry-erase boards

    D. Putting one bean in each square of a grid containing ten squares

Use the following pictorial model, which contains 100 squares, to answer the following questions.



COMPETENCY 014

17. If each unit square in the 100-square model represents 0.1, then which of the following is the decimal numeric representation of the shaded area?

    A. 72

    B. 7.2

    C. 0.72

    D. 0.072

COMPETENCY 014

18. What fractional part of the model is shaded?

    A. $\frac{72}{1}$

    B. $\frac{72}{10}$

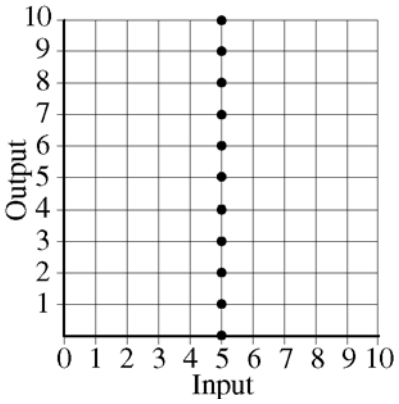
    C. $\frac{72}{100}$

    D. $\frac{72}{1000}$

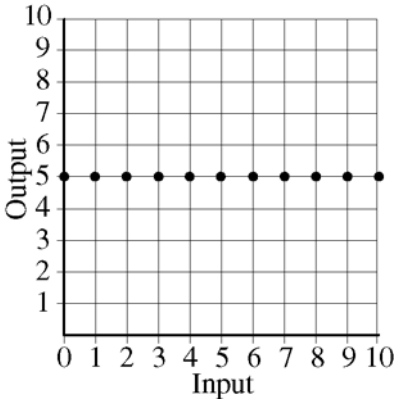
COMPETENCY 015

19. Miguel is playing a game called Guess My Rule. Each time a classmate calls out a positive number (input number), Miguel adds 5 to the number and tells the class the result (output number). The game continues until a student is able to correctly predict Miguel's response and then state Miguel's rule. Which of the following graphs correctly shows some possible values of the input and output numbers for Miguel's rule?

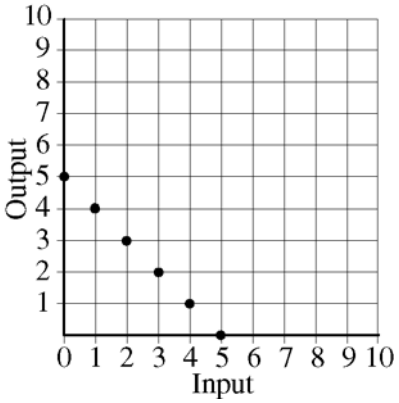
A.



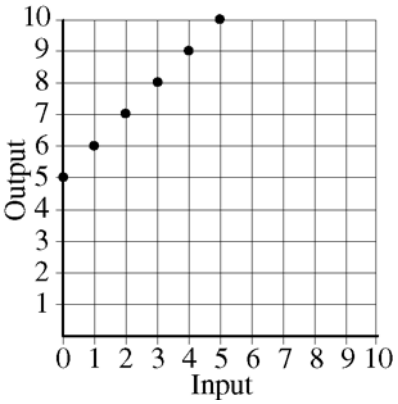
B.



C.



D.



COMPETENCY 016

20. What unit of measure is used when finding the girth, G, of a box, which is related to the distances around a box, by the formula $G = 2(w + h)$?

A. cm

B. cm^2

C. cm^3

D. cm^4

COMPETENCY 017

21. A teacher has each of his kindergarten students flip a coin twenty times while keeping track of which side of the coin lands up — heads or tails. This is an example of an activity that will help the students develop a beginning understanding of

    A. number patterns and functional relationships.

    B. real numbers and laws of order of operations.

    C. data collection and probability.

    D. fraction sense and part-to-whole ratios.

COMPETENCY 018

22. Which of the following civilizations is most closely associated with the systematic study of geometry and the development of mathematical proofs?

    A. Egyptian

    B. Persian

    C. Roman

    D. Greek

COMPETENCY 019

23. Mr. Samoa will be helping sixth graders understand the characteristics of limited and unlimited governments. Which of the following concepts should the students be familiar with before he begins the lesson?

    A. The purpose of laws

    B. The concept of sovereign authority

    C. The advantage of free markets

    D. The naturalization of citizens

COMPETENCY 020

24. Which of the following did Lyndon B. Johnson, the thirty-sixth president of the United States, accomplish during his tenure in Congress (1937 to 1961)?

    A. Became a leading expert on international policy through his work on the Senate Foreign Relations Committee

    B. Mustered congressional support for rural electrification, the space program, and civil rights legislation

    C. Coordinated nationwide efforts to reduce election fraud

    D. Established new regulatory policies for the radio and television industries

COMPETENCY 021

25. Which of the following technologies had the greatest impact on the environment and the geography of agriculture in the U.S. Great Plains?

    A. The cotton gin

    B. The steel plow

    C. The telegraph

    D. The prairie schooner

COMPETENCY 022

26. The students in Mr. Grant's third-grade class earn tickets for positive behaviors and use them to bid on prizes in a class auction at the end of each week. One Friday Mr. Grant went to his prize box and pulled out only one object, a popular multicolored pen. He explained to the students that it was the only prize he had and began the bidding process. The bidding reached fifteen tickets. He then pulled out twenty more of the same pens and began the bidding again, but no one would bid more than one ticket.

    The application of which economic concept can be demonstrated by the impact of the twenty additional pens on the bidding price?

    A. Opportunity cost

    B. Supply and demand

    C. Price floor

    D. Comparative advantage

COMPETENCY 023

27. Which of the following best explains why the words of a citizen who yells "fire" in a crowded room are not protected by the First Amendment of the United States Constitution?

    A. Individual rights are only protected when individuals state facts rather than opinions.

    B. The First Amendment protects individual rights at the local level but not at the federal level.

    C. No right is absolute, especially when weighing an individual's rights against the rights of a larger group.

    D. The First Amendment only protects written documents and not speech.

COMPETENCY 024

28. **Use the table to answer the question below.**

Milligram (mg)	1,000 mg = 1 g
Gram (g)	base unit
Kilogram (kg)	1,000 g = 1 kg

    Which of the following is equivalent to 2 g?

    A. 2,000 mg

    B. 20,000 mg

    C. 200,000 mg

    D. 2,000,000 mg

COMPETENCY 025

29. Ms. Ruiz is teaching her students about igneous, sedimentary, and metamorphic rocks. Which of the following activities would foster critical thinking in her students?

    A. Students classifying rock samples as igneous, sedimentary, or metamorphic

    B. Students watching a video that details the characteristics of igneous, sedimentary, and metamorphic rocks

    C. Students researching and then listing the characteristics of igneous, sedimentary, and metamorphic rocks

    D. Students labeling diagrams of igneous, sedimentary, and metamorphic rocks using their textbook

COMPETENCY 026

30. In a lesson about resource use, a teacher is contrasting the use of fossil fuels with the use of biofuels. Which of the following best characterizes how biofuels are different from fossil fuels?

    A. Biofuel combustion does not release carbon dioxide

    B. Biofuels are renewable resources

    C. The energy in biofuels originates from the Sun

    D. The reliance on biofuels decreases the availability of fossil fuels

COMPETENCY 027

31. A second-grade teacher is focusing on the concept that change occurs in systems. Which of the following activities presents that concept using the scientific inquiry method?

    A. Comparing and contrasting two seasons by creating a Venn diagram

    B. Watching a video explaining the effects of Earth's revolution around the Sun

    C. Making and testing predictions of how long it would take an ice cube to melt on a sunny day

    D. Reading a nonfiction book about how farmers used scientific data in the production of crops

COMPETENCY 028

32. While teaching sixth-grade students new abstract science concepts, a teacher plans to use questioning strategies to help his students construct and monitor meaning. Which of the following techniques would best promote the students' understanding?

    A. Students self-assess their understanding of the concepts by answering a set of teacher-generated multiple-choice questions.

    B. Students answer questions that appear after a textbook chapter covering the concepts.

    C. Students respond to teacher-prompted discussion questions about the concepts from the most complex levels of Bloom's taxonomy.

    D. Students generate their own questions about the concepts before beginning instruction.

COMPETENCY 029

33. Third-grade students have been identifying planets in the solar system and their position in relation to the Sun. After completion of the unit, which of the following culminating activities would best assess the students' learning?

    A. Students replicate a unit experiment that uses the scientific method to demonstrate the effects of gravity.

    B. Students create a display board of unit concepts to present in a science fair.

    C. Students complete a self-evaluation of their learning of unit material by using a rubric.

    D. Students present an oral report about a planet that incorporates the use of both print and nonprint resources.

COMPETENCY 030

34. Ms. Moore is working with her sixth-grade science class to spot simple machines in daily surroundings. Which of the following everyday objects would be the best example of a lever?

    A. A ramp

    B. A skateboard

    C. A hammer

    D. A flag

COMPETENCY 031

35. Propane C_3H_8 is a common fuel used in home barbeque grills. When propane burns in air, it produces which of the following gases?

    A. Helium

    B. Oxygen

    C. Carbon dioxide

    D. Nitrogen

COMPETENCY 032

36. Teaching a lesson on the properties of sound, a teacher talks about the sound of a passenger jet plane in flight, observing that the sound seems to come from a point several plane-lengths behind the jet itself. This example best demonstrates which of the following about the speed sound?

    A. It is significantly slower than the speed of light.

    B. It is significantly slower than a jet's cruising speed.

    C. It stays the same regardless of the atmospheric conditions.

    D. It is slower for low-pitched sounds.

COMPETENCY 033

37. Which of the following energy transformations occurs when gasoline is ignited in the cylinder of a car engine?

    A. Chemical energy is converted to thermal energy.

    B. Thermal energy is converted to chemical energy.

    C. Kinetic energy is converted to thermal energy.

    D. Electrical energy is converted to kinetic energy.

COMPETENCY 034

38. The human skeletal system consists of bones, cartilage, ligaments, and tendons. Which of the following sentences correctly states one of the functions of the human skeletal system?

    A. It provides the energy to move the body.

    B. It provides a rigid framework that supports and protects many organs of the body.

    C. It stores oxygen for use by the body during times of strenuous exertion.

    D. It provides a network of channels for the movement of blood throughout the body.

Use the information below to answer the questions that follow.

An elementary teacher has ordered frog eggs from a biological supply company. The teacher plans to put the eggs into an aquarium in the classroom, where students can observe them over a period of time.

COMPETENCY 034

39. Before introducing the frog eggs into the aquarium, the teacher is ethically obligated to

    A. be certain that the aquarium is completely sterilized and filled with distilled water.

    B. provide all of the basic requirements for the survival and development of the eggs.

    C. make preparations to release the frogs into a local pond as soon as they have matured.

    D. introduce different organisms into the aquarium to simulate a natural pond ecosystem.

COMPETENCY 036

40. As the students observe the transformation of eggs into tadpoles and then into frogs, one of the students asks, "Why do tadpoles have tails, but frogs don't?" The question would most likely provide an opportunity for the teacher to discuss which of the following topics?

    A. An organism's adaptive traits that allow it to survive in an environment

    B. The role of dominant and recessive traits in development

    C. The importance of the role of mutations in an organism's survival

    D. An organism's physiological responses to environmental stressors

COMPETENCY 035

41. Which of the following is an example of a purely instinctive, inherited trait?

    A. A dog fetches a stick.

    B. A dolphin jumps through a hoop.

    C. A pride of lions hunts for prey.

    D. A snake slithers across the ground.

COMPETENCY 037

42. A swarm of grasshoppers begins to eat the wheat in a field. Birds descend on the field and eat many of the grasshoppers, and snakes eat some of the birds. In the food chain described, which organism or group of organisms provides the greatest amount of energy?

    A. Wheat

    B. Grasshoppers

    C. Birds

    D. Snakes

COMPETENCY 038

43. Which of the following is one of the layers of Earth's atmosphere?

    A. Corona

    B. Nebula

    C. Stratosphere

    D. Biosphere

COMPETENCY 039

44. In a classroom demonstration, a science teacher pours hot water into a beaker and covers it. After a few minutes, she removes the lid and asks the students to examine it. The students observe that there are water droplets on the lid. Which of the following processes produced what the students observed?

    A. Transpiration, followed by condensation

    B. Evaporation, followed by condensation

    C. Transpiration, followed by precipitation

    D. Precipitation, followed by evaporation

COMPETENCY 040

45. The day after a cold front passes, an area is most likely to experience

    A. severe weather.

    B. cloud cover.

    C. drought conditions.

    D. lower temperatures.

COMPETENCY 041

46. A teacher is using a model of the solar system to demonstrate the seasons. To give an accurate demonstration, the teacher should focus on which of the following features?

    A. The position of Earth's orbit compared to the orbits of neighboring planets

    B. Earth's changing distance from the Sun as it goes through its orbit

    C. The tilt of Earth's rotational axis

    D. The velocity of Earth's rotation on its axis

COMPETENCY 042

47. Mr. Morrison, a pre-kindergarten teacher, has his students observe caterpillars developing into monarch butterflies over the course of a few weeks. The students are excited to see each butterfly emerge from a chrysalis. In addition to having this experience serve as a science lesson, Mr. Morrison could use the butterflies as a stimulus for artistic expression appropriate to this age group by

    A. showing the students how to make origami butterflies by carefully folding and twisting thin paper.

    B. asking each student to draw a series of pictures that accurately show the stages of a monarch butterfly's life cycle.

    C. asking each student to use the patterns on the butterflies' wings as the basis for an intricate, multimedia collage.

    D. encouraging the students to observe the butterflies closely and make butterfly-inspired pictures with materials in the art center.

COMPETENCY 043

48. A second-grade teacher gives each student a set of hand bells. She asks students to sing the song "Twinkle, Twinkle, Little Star" and shake the bells to the beat of the music. The main purpose of this activity is to instruct students about the

    A. pitch of the bells.

    B. timbre of the bells.

    C. meter of the music.

    D. intonation of the voices.

COMPETENCY 044

49. Ms. Hall, a first-grade teacher, has been teaching a unit on safety with her class. She has already taught several lessons on how to stay safe, prevent accidents, and respond to emergencies. In order to best assess her students' knowledge, she should

    A. show a video on safety to the class and have them write a summary.

    B. invite civil servant guest speakers to discuss safety with the class.

    C. assign small groups to create a written action plan for a specific emergency situation.

    D. assign small groups to role-play their reactions to various emergency situations.

COMPETENCY 045

50. Mr. Alvarez has been reviewing the letters of the alphabet with his first graders. To help reinforce their recognition of the shapes of the letters, he plans a physical-education activity for the students. Mr. Alvarez divides the class into pairs. He then says the name of a letter, and each pair of students must think of a way to make the shape of the capital letter with their bodies. The activity is most likely to promote students' physical development in which of the following areas?

    A. Eye-foot coordination

    B. Body awareness

    C. Eye-hand coordination

    D. Tactile awareness

ANSWER KEY

Question Number	Correct Answer	Competency
1	C	001
2	A	002
3	B	003
4	B	004
5	B	004
6	C	005
7	D	006
8	D	007
9	B	008
10	C	009
11	C	009
12	D	010
13	B	010
14	C	011
15	B	012
16	D	013
17	B	014
18	C	014
19	D	015
20	A	016
21	C	017
22	D	018
23	A	019
24	B	020
25	B	021

Question Number	Correct Answer	Competency
26	B	022
27	C	023
28	A	024
29	A	025
30	B	026
31	C	027
32	D	028
33	B	029
34	C	030
35	C	031
36	A	032
37	A	033
38	B	034
39	B	034
40	A	036
41	D	035
42	A	037
43	C	038
44	B	039
45	D	040
46	C	041
47	D	042
48	C	043
49	C	044
50	B	045

Chapter 6

Are You Ready? – Last Minute Tips

PREPARING TO TAKE THE TEST

CHECKLIST

Complete this checklist to determine if you are ready to take your test.

- ✓ Do you know the testing requirements for your teaching field?
- ✓ Have you followed the test registration procedures?
- ✓ Have you reviewed the test center identification document requirements in the *Registration Bulletin* or on the ETS TExES website at **www.texes.ets.org**?
- ✓ Do you know the test frameworks that will be covered in each of the tests you plan to take?
- ✓ Have you used the study plan sheet at the end of this booklet to identify what content you already know well and what content you will need to focus on in your studying?
- ✓ Have you reviewed any textbooks, class notes, and course readings that relate to the frameworks covered?
- ✓ Do you know how long the test will take and the number of questions it contains? Have you considered how you will pace your work?
- ✓ Are you familiar with the test directions and the types of questions for your test?
- ✓ Are you familiar with the recommended test-taking strategies and tips?
- ✓ Have you practiced by working through the sample test questions at a pace similar to that of an actual test?
- ✓ If you are repeating a test, have you analyzed your previous score report to determine areas where additional study and test preparation could be useful?

THE DAY OF THE TEST

You should have ended your review a day or two before the actual test date. Many clichés you may have heard about the day of the test are true. You should:

- Be well rested.
- Take the appropriate identification document(s) with you to the test center (identification requirements are listed in the *Registration Bulletin* and on the ETS TExES website at **www.texes.ets.org**).
- Take 3 or 4 well-sharpened soft-lead (No. 2 or HD) pencils with good erasers.
- Eat before you take the test.
- Be prepared to stand in line to check in or to wait while other test takers are being checked in.
- Stay calm. You can't control the testing situation, but you can control yourself. The supervisors are well trained and make every effort to provide uniform testing conditions, but don't let it bother you if a test doesn't start exactly on time. You will have the necessary amount of time once it does start. Using the *Reducing Test Anxiety* booklet in the days before you test may be helpful in mentally and emotionally preparing yourself to test. It is available free at **www.texes.ets.org**.

You can think of preparing for this test as training for an athletic event. Once you have trained, prepared, and rested, give it everything you've got. Good luck.

Appendix A

Study Plan Sheet

STUDY PLAN						
Content covered on test	**How well do I know the content?**	**What material do I have for studying this content?**	**What material do I need for studying this content?**	**Where can I find the materials I need?**	**Dates planned for study of content**	**Date completed**

Appendix B

Preparation Resources

PREPARATION RESOURCES

The resources listed below may help you prepare for the TExES test in this field. These preparation resources have been identified by content experts in the field to provide up-to-date information that relates to the field in general. You may wish to use current issues or editions to obtain information on specific topics for study and review.

JOURNALS

Art Education, National Art Education Association.

The Elementary School Journal, *University of Chicago Press*.

Exceptional Children, *Council for Exceptional Children*.

Instructor, *Scholastic, Inc*.

Journal for Research in Mathematics Education, *National Council of Teachers of Mathematics*.

Journal of Health, Physical Education, Recreation and Dance, *American Alliance for Health, Physical Education, Recreation, and Dance*.

Language Arts, *National Council of Teachers of English*.

Music Educators Journal, *Music Educators' National Conference, Center for Educational Associations*.

The Reading Teacher, *International Reading Association*.

Science and Children, *National Science Teachers Association*.

Social Education, *National Council for the Social Studies*.

Teaching Children Mathematics, *National Council of Teachers of Mathematics*.

Teaching PreK–8, *Early Years, Inc*.

Learning and Leading with Technology, *International Society for Technology in Education*.

The Social Studies, *Heldref Publications*.

Young Children, *National Association for the Education of Young Children*.

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ONLINE RESOURCES

Center on Instruction, RMC Research Corporation — www.centeroninstruction.org

Education Resources Information Center (ERIC) — www.eric.ed.gov

GovSpot, StartSpot Mediaworks, Inc. — www.govspot.com

Kids.gov, U.S. General Services Administration — www.kids.gov

Searchlight, The University of Texas at Austin — http://searchlight.utexas.org

Texas Education Agency — www.tea.state.tx.us

USGS Education, U.S. Department of the Interior — http://education.usgs.gov/common/primary.htm

Vaughn Gross Center for Reading and Language Arts, The University of Texas at Austin — www.texasreading.org/utcrla

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